

# *Progress on Reading Roads*

By PAUL R. SPENCER, WILLIAM H. JOHNSON  
and THOMAS E. ROBINSON

*Illustrators*  
ETHEL DUGGER and HENRIETTA H. HOWY

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## PREFACE

The purpose of this book is to help you improve your ability to read and study. In this book you will read many different kinds of materials which are like much of the content you read each day. You will be asked to read these materials in the different ways and with the different purposes for which you read them in and out of school. There are practice lessons which will help to improve various phases of your reading.

Eight aspects of reading and study development emphasized in this book are:

1. Improving the way or ways in which different materials are read for varied purposes.
2. Increasing rate of reading.
3. Increasing the size of reading vocabulary.
4. Improving ability and increasing speed in recognizing unfamiliar words.
5. Improving ability to read purposefully and thoughtfully.
6. Improving ability to organize and to remember the thought secured from reading.
7. Increasing skill in using reference materials.
8. Improving skill in special types of reading—in interpreting maps, tables, graphs, charts, and cartoons.

Your job as a reader will be to do the daily reading outside this book in the same ways this book teaches you to read; to learn by experience in outside reading to apply the reading methods recommended in this book.

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# *Progress on Reading Roads*

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## Progress on Reading Roads

In the course of a day a student encounters many different kinds of reading material. In the morning he usually looks at a newspaper for a few minutes. He reads the parts of the paper in which he is interested. His time is short, so he reads as fast as possible. After reading the front page news and looking at the sports page, he may read reviews of the motion picture plays at the theaters, or the news on the school page. If he rides to school on a streetcar or bus, or even if he walks, he probably reads some advertising signs along the way.

When the student reaches school, there are probably bulletin notices to read. In his first class, perhaps one in history or civics, he may read from a textbook to get information or from recent magazines to get current events material. He may be working on a special topic which requires the reading of reference books or of articles in an encyclopedia. His next class may be mathematics which requires the reading of an entirely different kind of content.

The student may go to a shop class where there are directions to be read, or to a foreign language or Latin class where translating of content is required. He may go to lunch in the cafeteria where he reads the menus and price lists. After lunch there is an English class in which the student may do a number of different kinds of reading. On some days he may read a short story, a novel, some poetry, or a play. On other days his task may be to read from a composition book or to read

material in preparation for the writing of a composition. His science class may require reading of directions for carrying out an experiment. In all classes there may be blackboard assignments to guide reading and study, examination questions to be answered, or mimeographed outlines to be read and followed.

At home after school the student may read the evening paper or a magazine story. After dinner he probably does his homework, which again necessitates reading several different kinds of materials. After the homework is finished, he may read a book in which he is interested. If it is Friday night, perhaps he goes to a motion picture show where he does another kind of reading.

In any given school day the student reads many different kinds of materials. The list probably includes the following:

Signs	Price lists
Menus	Test questions
Novels	History textbook
Pictures	Scientific articles
Newspapers	Mathematics textbook
Directions	Foreign language textbook
Short stories	Magazine of current events

The different materials which the student reads in the course of a day are not equal in difficulty. There are four reasons why some of the reading materials seem more difficult than others. Some studies require the use of unusual technical words that are not found in other subjects. Such words as *interest*, *profit*, *loss*, *per cent*, *triangle* and *angle*, for example, are used particularly in mathematics. Other words, such as *erosion*,



*eclipse, esophagus, combustion, and generator* are found in science materials. In every subject the vocabulary peculiar to that study may present a problem to the reader.

A second factor that affects the difficulty of reading material is the reader's familiarity with the subject. The more the reader knows about a subject, the easier it is for him to read materials dealing with its topics. When the thought or ideas given are entirely new, reading is much more difficult than it is in material containing information with which the student is familiar.

Reading material may be easy or difficult because of the style in which it was written. Usually long sentences are more difficult to read than short ones. Material which is full of facts but has little explanation or illustration may be difficult to read.

A fourth reason why some materials present difficult reading problems lies in the purpose for which the student reads. If he reads a story solely for enjoyment and recreation, there is nothing in particular that he must do about it afterwards. He need not even tell the story to someone else unless he wishes. Such reading requires little effort. If, however, the student is reading history or civics materials, he usually has to do something about it afterwards. He must collect information and facts, organize them for better understanding, and report on them. He has to select, from a large amount of content, the information which is most important for his use. He must discard unimportant ideas. If he wants to determine which facts are the best to remember, he needs to select some ideas and compare them with others.

In foreign language reading, the student must read to be able to remember vocabulary and its meaning. In mathematics he reads in order to determine the procedures to be followed in solving problems and in understanding principles which must be remembered and later used in working other problems.

In science, the student may read to get information that needs to be organized and related in order to be understood and remembered. He may read to discover what to do in an experiment or to get help in drawing conclusions from observations.

Directions may be read in the science or mathematics class, or in the shop in order to carry out a plan. In notices on the bulletin boards and in tests given in various studies more directions are read.

Each type of reading presents different reading problems. Each difference in reading purpose adds to the variety of problems.

## SECTION I

### Ways of Reading

*In this section you will learn how your eyes behave as you read. Tests will be given and suggestions will be made for increasing your reading speed and comprehension. The ways in which you should read under different reading conditions will be discussed. The ways in which you can skim effectively will also be pointed out.*



## How Rapidly Do You Read?

Boys and girls run, speak, and read every day. They have run, spoken, and read for so many years that they take these skills for granted. If, however, boys and girls wish to excel in these activities, they must work to improve their skills.

Eager pupils take advantage of the help that is offered to them at school. A boy who is a member of the school track team discovers that the coach can help him improve his running speed. The coach explains what habits have interfered with the runner's progress and calls attention to unnecessary actions that have retarded his speed. In a similar manner, a girl who participates in dramatics discovers that she has some bad speech habits of which she has been totally unaware. The dramatic instructor skillfully helps her to overcome the deficiencies in her speech.

In reading, just as in running or speaking, pupils may learn how to overcome poor habits which, unless corrected, will seriously retard their progress in school. Many boys and girls make a number of unnecessary motions while they read. Some let their lips form the words as they read, and a few actually whisper to themselves. Others, although they may not be moving their lips, nevertheless are repeating every word to themselves. Some pupils have the habit of moving their heads from side to side as they read. Some point at each word with their fingers while still others frown, scowl, squint, or bite their lips.

These poor reading habits probably were learned long ago, and pupils may not even be conscious of them. None of these habits is of any help in reading, and some of them greatly retard reading speed.

In speaking, a person seldom says more than 125 to 150 words a minute, whereas he should be able to read easy material at the rate of more than 200 words a minute. When he moves his lips, or says the words to himself, he is holding his reading speed down to his speaking speed. It is impossible for him to increase his reading speed markedly without first overcoming his habit of saying to himself the words he reads. There is a difference between thinking the meanings of the passages that are read and actually repeating words. Thinking the meanings is the only way a reader can comprehend what he is reading.

Pointing to words usually retards a reader's speed. Pointing to a line that is difficult and needs rereading may be done occasionally by any good reader. Habitual pointing with a finger or pencil is unnecessary and should not be done.

The muscular and nervous motions that many readers have developed are chiefly wasted energy. They are tiring and they frequently reduce a reader's efficiency. They can be eliminated if a little attention is given to them.

#### GOOD READERS ARE RAPID READERS

The rate at which different students read the same material varies. Some students read an easy story at little more than 100 words a minute, while a few may read the same story at the rate of 500 to 600 words a minute. One pupil will take five or six times as long to

read a storybook as another. The rapid reader not only saves a great amount of time, but he usually enjoys his reading much more than the slow reader does.

Rapid readers usually get more of the thought from their reading than do slow readers. This may be because they recognize the meanings of words and sentences more quickly. It may be, in part at least, because they give their full attention to what they are reading.

A slow reader may never be able to read at the rate of 500 to 600 words a minute, but he can increase his reading rate. Many readers have doubled their reading rate by intelligent practice.

#### EYE MOVEMENTS IN READING

When a person reads, his eyes move along a line of print in a series of jerks. Between jerks the eyes rest. It is during these rest periods that a word or phrase is recognized and the meaning is secured.

The way the eyes move and pause in reading two or three lines might look like the lines shown here.

	1	2	3	
4		5	6	
7	8	9	10	

The numbers indicate where the eyes pause. When the eyes pause, one or more words can be recognized. As a rule, good readers recognize two or three words every time their eyes pause. They average four or five pauses per line. Poor readers, on the other hand, often have to make eye pauses for each word.

One night Peter went to bed early. It was  
 not dark. The bright moon shone in at the  
 window. Peter could see everything in the  
 room. All at once he heard a noise. Peter  
 opened his eyes. He saw that the room had  
 grown dark. Something was outside the  
 window.



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By looking at pages 10 and 11 a comparison may be made of the eye movements of a poor reader with those of a good reader. The vertical lines mark where the eye pauses were made. The numbers above the vertical lines indicate the order in which the pauses were made in reading each line from left to right. Notice the large number of eye pauses made by the poor reader. Notice how his eyes jumped from one part of the line to another rather than moving regularly from left to right along the line.

### ACTIVITIES

1. Make a list of the different kinds of reading materials which you read yesterday.
2. Make a list of the different purposes for which you read the various kinds of materials.
3. Give four reasons why different kinds of reading materials present different reading problems and difficulties.

## Improving the Rate of Reading

There are a number of suggestions which, if followed, will improve reading rate. One is to read by phrases rather than by words. The following sentences illustrate this suggestion:

Many / college students / with practice / could read much faster / than they do.

The faster / a student reads, / the more / he reads in a given time.

Speed of reading depends largely on the number of words the reader can recognize and understand in one pause of the eyes. Recognizing the meanings of groups of words as quickly as possible, therefore, will help to improve reading speed.

Some pupils, and even adults, have never learned to read more than one word at a time. This habit causes slow reading. It takes longer to read separate words and put their meanings together into complete thoughts than it does to read groups of words. The person who reads in phrases finds that understanding comes more quickly and easily than if word reading is done.

Reading ability improves as one's reading vocabulary increases. If the student knows a large number of words, he is less likely to have to stop or slow his rate to get understanding. When an unfamiliar word is met in reading material, the eyes must stop and examine the word. Sometimes the reader fails to recognize it and reads beyond it. Then, to get the thought, his eyes must jerk back to look at the word again. That takes time

and slows his reading rate. The more familiar words there are in the content, the greater the speed will be in reading.

Still another habit which can be developed to improve reading rate is that of anticipating the meaning. A skillful reader lets his thought run ahead of the words which his eyes are seeing. Many words hardly need to be recognized as the eyes make pauses along the line. Slow readers have to put the thought together by words and phrases but rapid readers are not conscious of this piecing together. The thought comes almost ahead of the words: it flows from the words.

The rapid reading of easy material helps to develop speed that can be used to good advantage in other reading. Reading a large amount of exciting, interesting, easy story material is good practice for developing reading speed.

To improve your reading rate remember to:

1. Read in phrases rather than by words.
2. Increase your vocabulary.
3. Learn to anticipate the meaning.
4. Practice rapid reading of easy material.

#### BECOMING AN EFFICIENT READER

Good readers become skillful in noting the topic sentence in a paragraph. This key sentence gives the main idea of the paragraph, but often does not complete the thought for the reader. It remains for the other sentences in the paragraph to give the facts, incidents, descriptions, and ideas which complete the thought.

Topic sentences frequently are found at the beginning of a paragraph. This position is particularly true in

textbooks, and in newspaper and magazine articles. Sometimes, however, topic sentences are found near the middle of the paragraph and for that reason, do not lend themselves so well to rapid reading.

One who wishes to read an article rapidly and yet get the thought, may skim a few paragraphs to see where the author has put the topic sentences. If the writer has not been consistent, little help is given to the reader for increasing his speed and ease of reading.

#### USING TYPOGRAPHICAL SIGNS

Typographical signs such as running heads and sub-topics often point the way to greater ease of reading. Good readers make constant reference to the running head on the right-hand page of a book because it gives the topic of the chapter or of the chapter section and keeps the reader informed of the general topic under discussion. The reader should note all subtopics that are in different type because a subtopic gives the general idea of the content which follows. In many books, especially textbooks, the chapter, sectional, and sub-sectional headings furnish a complete outline of the book.

#### VARYING THE RATE OF READING

There are many times when the efficient reader may need to change his rate of reading. Frequently the reader encounters material which he does not wish to take the time to read carefully. He may be undecided as to whether the material is suited to his purpose or interest. He may not know whether to read it or not. If he can skim it and get an idea of its thought, he can decide whether it deserves more careful reading.

The skillful reader finds many occasions to skim. When he has a few minutes to read the newspaper, he skims the pages to find those parts which interest him and which he wishes to read in more detail. He skims the stories in a magazine to select the one to read first. He skims a chapter in a book which he has read before, in order to find facts which he wishes to use. He skims the telephone directory and dictionary to find a certain name or word. He skims the signs along the street to find a particular store or kind of store.

Although rapid reading and skimming are valuable at times, there are occasions in which careful and slow reading is necessary. If the reading material is unfamiliar in thought, if there are unfamiliar words, if the content is condensed or expressed in a few words, slow, careful reading is necessary.

Arithmetic problems and directions to make something or to carry out an experiment, are examples of material for which slow, careful reading is needed. In such content there may be little explanation so the thought of every sentence and word is essential. Directions for playing a game or a recipe for making a cake are good examples of reading that require slowing of speed.

If the material deals with a topic which is unfamiliar, or with words and expressions whose meanings are unknown, slow, careful reading is necessary. Time may need to be taken to look up the meaning of words, and to reread sentences and paragraphs after the meaning of a word or expression has been found.

Much of the reading matter used in school is not entirely unfamiliar. Some of the information is already

known. On the other hand, many new ideas and facts are encountered among the old. In such situations a skillful reader will read the lesson rapidly, then stop and reread parts that give new information. If the thought is not clear after a paragraph has been read, the good reader will reread in order to get the thought.

Many students have found that a second reading of a lesson may be avoided if a pause is made at the end of important sections and a mental review made of what has been read. A good student avoids a complete rereading whenever a skillful use of different reading rates and a rereading of parts will satisfy his purpose.

#### ACTIVITIES

1. Write the answers to these questions:
  - a. What physical habits of readers retard their reading efficiency?
  - b. Are rapid or slow readers usually the more thoughtful readers? Why?
  - c. What are three suggested ways in which reading speed may be increased?
  - d. What kind of reading material should be used in practicing rapid reading?
  - e. What are three suggestions which will aid the reader in getting general ideas from reading materials?
2. List I shows the different ways of reading. List II gives eight reading situations. On your paper write the numbers from (1) to (8) inclusive. After each number put the letter or letters indicating the way or ways in which you would read in that numbered situation. Consider the purpose for reading in each situation before deciding on the best way to read.

LIST I—*Way or Ways of Reading*

- |  |                            |
|--|----------------------------|
| a. Skimming  | f. Rereading               |
| b. Rapid rate  | g. Rereading parts         |
| c. Normal rate   | h. Mental summary of parts |
| d. Slow rate   | i. Mental summary of whole |
| e. Rapid rate and then normal or slow rate (varying your rate) |                            |

LIST II—*Reading Situations*

- (1) Material: Story in a magazine.  
Purpose: Reading purely for recreation.
- (2) Material: Cookbook recipe.  
Purpose: Reading in order to make a chocolate layer cake.
- (3) Material: The Constitution of the United States.  
Purpose: To understand the organization of the Federal Government and the powers given to each of the branches.
- (4) Material: Novel dealing with the Gold Rush to California in 1849.  
Purpose: To get a better picture of the spirit and social conditions existing in the far West at the time. Read as supplementary to your study of the growth of the West in your history class.
- (5) Material: Biography of Madam Curie, the great woman scientist who discovered radium.  
Purpose: A supplementary assignment in your science class upon which a fifteen-minute oral report is to be made to the class.



- (6) Material: The first page of a city newspaper.

Purpose: To get in ten minutes the important world events of the last few hours in order to report on them in the current events discussion in your social studies class.

- (7) Material: Chapter in your history text on the comparison of the economic and military strength of the northern and southern states at the outbreak of the War Between the States.

Purpose: To predict the outcome of the struggle on the basis of the comparative strength of the two sections.

- (8) Material: Book dealing with your chief hobby or interest, such as camping.

Purpose: To learn more about an interest in which you have already read a great deal and in which you have had some practical experiences. (You have gone to camp for two summers.)

*Check your answers with those on page 556*

## First Test of Reading Speed

Place a sheet of paper and a pencil on your desk. Then read the directions carefully.

1. Read the story of Elizabeth Fry at the rate of speed you usually use for informational reading. Your chief purpose will be to secure the most important facts connected with Elizabeth Fry's life in as brief a time as possible.
2. At the end of the article you will be required to answer twenty questions about the life of Elizabeth Fry.
3. As you read, your teacher will indicate on the blackboard the amount of time that has elapsed since you began to read. When you finish, glance at the blackboard and copy the *last time* recorded. That will be your *time score*.
4. As soon as you have made a note of your time, attempt to answer the twenty questions at the end of the article. Do not refer to the article even if you are unable to answer some of the questions.
5. When your teacher gives the signal, you may compare your answers with those at the back of the book on page 556. Each correct answer will count five points on your comprehension score. The best reader will be the pupil who has the lowest time score and the highest comprehension score.

*Remember, your only purpose is to learn the most important facts about Elizabeth Fry's life in as brief a time as possible.*

## The Woman Who Found Human Beings in Prison

About the time of the Revolutionary War in the New World, there were in England many different acts or circumstances for which people were put into prison. It is small wonder that the English prisons of that time were overcrowded, and that the hangman was overworked. Even owing money was considered a crime.

In those days prisoners had very few comforts because most of the people of England took little interest in prisons. The inmates had to sleep on bare boards. No heat was supplied. Scores of prisoners were packed together in small rooms. Often the inmates had very little clothing with which to keep themselves warm. Whatever money was given them, they were allowed to spend in any way they wished and prisoners used the money to buy liquor.

Any persons who raised their voices to speak in favor of improved prison conditions usually met with little success. Most people felt that since the prisoners had broken the laws of the country, they should be made to suffer the penalty. These people did not ask why the laws were broken, nor did they seem to realize that frequently it was the fear of starvation that forced men into crime. Poor training on the part of parents, or poor home surroundings were not thought of as causes for crime nor as conditions which could be corrected.

Even at that time many persons believed that a criminal was a sick man. The English prison authorities,

however, made no attempt to cure such sickness. Since prisoners accused of many different crimes were herded together in a large room, very few were better when they left prison than when they entered. Many learned criminal ways from others in the prison.

Elizabeth Fry was one of the first persons to see that the prison system needed change. During her lifetime she paved the way for the modern system of prisons and of the modern treatment of prisoners.

Elizabeth was the daughter of a wealthy Quaker named John Gurney, and was one of twelve children. She was a shy little girl. The stories her mother told her from the Bible filled her with terror—stories of the people of ancient lands being punished by plague and flood, of children being slain as a punishment to their parents. Elizabeth had great difficulty sleeping at night. Everywhere she went, events occurred which frightened her.

When Elizabeth was twelve years old, her mother died. Her sister, seventeen-year-old Catherine, took charge of the large household. It was from Catherine that Elizabeth learned to sew; through her the shy little girl heard stories which she loved. It was with Catherine that Elizabeth went on many happy picnics.

Later on, an American Quaker was responsible for a great change in Elizabeth's life. He was William Savery, a member of a Quaker group called the Plain Friends. His preaching seemed to go right into her heart. He in turn was interested in Elizabeth. After one of his services, he told Elizabeth that a great work was waiting to be done and that he was sure she was the one who would do it.

One day, as Elizabeth was going down the street, she met a poor young girl named Mollie Norman. Elizabeth knew Mollie had a hard life. She felt she might be able to help the little girl and asked that Mollie be adopted into the Gurney family.

Mollie was very ignorant, so Elizabeth determined to educate the child. Each day, in one of the rooms of her father's house, she conducted a little school. Because it seemed just as easy to teach many as to teach one, she opened her school to a number of poor children. Soon she had seventy children enrolled.

Elizabeth felt that she was really devoting her life to a good purpose. Even her marriage did not change her desire to be helpful to the world. As Mrs. Joseph Fry she continued her work.

One day Elizabeth Fry visited a prison to give comfort to some persons about to be put to death. When she saw the ragged, noisy group of women and children confined in the small dark cells, she knew that she had found the great work to which she must devote her life.

At first Elizabeth visited the prison merely to distribute among the women the clothing that she and her daughters had made. Later she took books to the prison. Many of the women could not read, so Elizabeth sought permission from the authorities to open a school at the prison.

Schoolwork, however, was not enough to keep the women busy. There was still much time hanging heavily on their hands. One day, therefore, Elizabeth brought in many pairs of knitting needles and some wool. She told the women that they would have a chance to make clothing and to earn money honestly.

The women were overjoyed. Before long, word spread throughout London that Newgate Prison had completely changed. It was cleaner. The inmates were better behaved. Despair had been replaced by hope. Everyone seemed always to be working. The Lord Mayor of London heard of the changes, so he visited Newgate Prison. He was greatly impressed.

"Mrs. Fry's plan for the women has proved successful," he declared. "We shall try the same plan with the men in the prison."

Several other changes in prison management must be credited to Mrs. Fry. She was the first to see that insane people should not be treated as criminals. She urged that prison cells be clean and well-lighted. She even built a home for men and women who had been released from prison. In the home the ex-prisoners stayed until they could find honest work. Mrs. Fry's idea of a prison was a place where criminals should be cured, not punished.

William Savery had been correct when he said, "There is a great work waiting to be done by you, and you will do it!"

#### CHECK YOUR COMPREHENSION

A. Number your paper from 1 to 10. Beside each number place T if the statement is true, F if the statement is false.

1. In England, at the time of the Revolution, owing money was considered a crime.
2. In those days efforts were made to make the lives of prisoners as comfortable as was possible.
3. Most men who entered England's prisons came out hardened criminals.

4. An American Quaker told the timid little Quaker girl that she would perform a great work.
  5. Elizabeth opened a school in her father's home, but few children seemed to want to attend.
  6. One of the best ways to help prisoners, thought Elizabeth Fry, was to give them money.
  7. Elizabeth Fry thought of prison as a place where criminals should be cured rather than punished.
  8. Elizabeth Fry failed in trying to run a school in the prison for women.
  9. Many of Elizabeth Fry's reforms were tried later in the prisons for men.
  10. In those days the insane were treated as criminals and placed in the same prisons.
- B. In each statement are three possible completions. Only one is correct. Number from 1 to 10. Beside each number place the letter that precedes the correct completion.
1. To help prisoners after they were released from prison, Mrs. Fry (a) started a school, (b) built a home for them to use until they found work, (c) gave each a small sum of money.
  2. Mrs. Fry believed that most of the disorder in prisons was caused by the fact that (a) the prisoners had no work to do, (b) the prisoners were not always given a fair trial, (c) the prisoners were not treated well.
  3. The money spent by Elizabeth Fry in carrying on her work was (a) given to her by William Savery, (b) her own money, (c) given to her by the government.

4. Mrs. Fry believed that the insane should (a) be sent to the colonies, (b) be given a treatment different from that given criminals, (c) be kept at home, guarded by their families.
5. Mrs. Fry opened a school in the prison (a) to teach the prisoners to read, (b) to teach the prisoners to sing, (c) to teach the prisoners to amuse themselves.
6. Elizabeth (a) never married, (b) married a man named Joseph Fry, (c) married the director of Newgate Prison.
7. Elizabeth once met a ragged little girl on the street and asked her father to (a) adopt the girl, (b) give the girl's father a job, (c) get the girl's mother out of prison.
8. In English prisons criminals (a) were not allowed to have visitors, (b) were allowed to spend no money, (c) were allowed to buy liquor if they had sufficient money.
9. Elizabeth was a (a) Presbyterian, (b) Episcopalian, (c) Quaker.
10. Elizabeth became interested in prisons (a) because of the noise she heard issuing from the windows of the prison, (b) because Newgate Prison was next to her father's home, (c) when she visited persons about to be put to death.

*Check your answers with those on page 556*

#### ACTIVITIES

1. There are 1,000 words in the article on Elizabeth Fry. Find the average number of words you read per minute.



2. Record your reading time and comprehension score in your notebook where you can refer to them for comparison after taking later tests.
3. Are you weaker in comprehension or in speed of reading? Slow reading may result, in part, from the causes listed here. Explain how each retards your reading rate.
  - a. Word reading
  - b. Unusual and difficult words
  - c. Long sentences
  - d. Lip movement

## Practicing Rapid Reading

The next two articles, both of which are called "Test Pilot," will give you practice in rapid reading. In the second article the lines are longer as in a book or as in some magazines.

You will be allowed 2 minutes and 30 seconds to read the easy, interesting article below. When you have finished, do the activities at the end of the article.

If you complete 8 or more activities correctly, you are a good reader; 5 to 8, a fair reader; below 5, you need to work to improve your comprehension. If you fail to finish the article within the time given you, you should work to improve your speed.

### TEST PILOT

There is never a long line of men waiting for the job of test pilot. That may seem strange because the job pays very well. A test pilot receives fifteen hundred dollars for three afternoons' work. The person or company who employs him also gives him a ten thousand dollar life insurance policy. Yet very few men want the job of test pilot.

A convention of United States test pilots could be held around a small table without crowding anyone. There are only four real test pilots in the whole country. That is, there were four at the last count. The next newspaper may bring news that there are only three.



Test pilots have a way of quitting work suddenly—and forever — which discourages men who would be glad to take such work. Test pilots are usually killed within two years from the time they start test piloting. Maybe it is not strange that almost no one wants to earn fifteen hundred dollars in that way.

Without question, the job of test pilot is the most dangerous one in aviation. Without much question, it is also one of the most important jobs. The test pilot tries out new kinds of airplanes by actually flying them in the air before they are sold or put into use. If there is anything wrong with this new kind of airplane, the test pilot finds it out. Finding it out often costs him his life.

Of course, the airplane makers don't purposely send the test pilot up in an airplane they know is faulty; as far as they know, there is nothing wrong with the airplane. Men have worked day and night for months, trying to make it as nearly perfect as possible. It has been tested dozens of times in the shops, and its plans have been gone over time and time again to see that there are no mistakes. The manufacturer knows, however, that a plane may look perfect on the ground, that it may pass all its shop tests, and still fall to pieces in the air. The maker cannot be

sure that the new idea which was built into the plane is good until someone actually flies the plane in the air—or shows that it will not fly.

That is where the test pilot comes in. He takes up a plane that has never been off the ground before. He makes it do things no one has dared to make it do before—things it will never have to do again. He flies it on its back. He flies it as nearly straight down and straight up as he can. He flies it through spins and loops. He sees how fast it will go, up and down. He dares it to come apart under him.

The test pilot may find that the wings of the airplane have come off. That is what he is expected to do. If the wings can possibly drop off, or if anything else can happen that might cause a crash, it is up to the test pilot to make it happen. Only actual flying will reveal what is wrong with an airplane. The test pilot finds the mistakes before someone else gets hurt because of them. If he gets hurt or killed, well, he was paid for it. It was part of his job.

As Lee Gehlbach, one of the best-known American test pilots, says, "It is better, if necessary, to crack up one airplane and maybe one pilot than to have flying around the country hundreds of faulty planes which may fall at any moment."

In return for his pay of fifteen hundred dollars and his free policy, the test pilot takes the plane through ten dives and a spin test. That is, he does if the airplane holds together long enough. Naturally, the hardest test of all, the long dive at full speed with a sudden jerk upward at the end, is kept until last. If anything wrong shows up before that, so much the better. There is no use wrecking an airplane and a good test pilot

if mistakes in construction can be found without it.

To come through this final test dive, a plane must be just as good as an airplane can be made. It is the sudden upturn at the bottom of the dive that often takes an airplane apart or, as the test pilots say, "undresses it." It is because something breaks or because the airplane will not come out of a dive that most test pilots lose their lives. Testing is important to plane production.

### ACTIVITIES

1. Number your paper from *a* to *f*. After each letter place the number that indicates the correct phrase.
  - a. The most important thing a test pilot does is
    - (1) find out whether or not an airplane is safe;
    - (2) see how fast an airplane will go;
    - (3) find out how much a parachute will stand;
    - (4) do stunts.
  - b. Test pilots are paid high wages because
    - (1) they work hard;
    - (2) they need the money;
    - (3) their work is dangerous;
    - (4) they travel a great deal.
  - c. If Lee Gehlbach stays in his present work, he will probably
    - (1) die in a sinking boat;
    - (2) be killed in an airplane accident;
    - (3) live to be an old man;
    - (4) be killed in an automobile.
  - d. When a test pilot wrecks a plane, it shows that
    - (1) no planes are safe;
    - (2) he is a careless pilot;
    - (3) something was wrong with the plane;
    - (4) he doesn't know how to fly.
  - e. When a test pilot talks about a dive, he means
    - (1) the kind of a dive a swimmer makes;
    - (2)

- that the plane goes very fast; (3) flying almost straight down; (4) jumping out of an airplane.
- f. When a test pilot says that he "undressed" an airplane, he means that he (1) tore it down for repairs; (2) scraped the old paint off so new paint could be put on; (3) put the plane away for the night; (4) made the plane fall apart while flying.
2. Write the letters from *a* to *d*. After each letter write what is missing from the corresponding statement.
- a. A test pilot receives \$..... for three afternoons' work.
- b. He is also given .....
- c. According to this article, there are now ..... real test pilots in the U.S.A.
- d. A test pilot usually lives ..... years after he starts piloting.

*Check your answers with those on page 556*

### TEST PILOT

You will be allowed 4 minutes and 20 seconds to read the article below. When you have finished, do the activities at the end of the article.

If you complete fewer than 5 correctly, you need to work to improve your comprehension. If you fail to finish the article within the time given you, you should work to improve your speed. In order to finish the article in the time allowed, you must read at the rate of 300 words a minute.

Danger is present during every part of a flight. As an example, look at the record of Lee Gehlbach's test dives. Of course, the things that happened to him do not happen every time. They do happen so often, however, that a test pilot has learned to expect them.



*Official U. S. Navy Photo*

Lee was testing a new kind of plane that the United States Army was thinking of buying. It had performed perfectly in its first flying tests on short dives of from a half mile to a little more than a mile. Then for the last test!

Lee Gehlbach took the plane up 23,000 feet, nearly five miles. There he leveled off. He felt strangely light-headed and sleepy and had to fight to stay awake. Those feelings were caused by the fact that at a height of five miles there isn't so much oxygen in the air as the body is used to. Lee looked over the side of his plane. Hundred-acre fields looked smaller than postage stamps. Woods looked like soft, green carpets lying around here and there. He turned back to the instrument board. He worked the tail and wing controls. The plane answered to every touch. He leaned over and looked carefully at the floor. He wanted to be sure there were no tools left lying there. One could not tell what loose objects might do in a diving plane. Sometimes the plane went down faster than the objects did, and then there was trouble.

Once a wrench had seemed to float right up from the floor and had hit Lee in the face. This time, however, the floor was clear.

Lee felt his right knee. Yes, his writing pad was fastened there where he could use it most easily for recording the different instrument readings. Everything was ready; no use waiting any longer.

Gehlbach speeded up until the airplane was doing its best—three hundred miles an hour. Then he pointed its nose as nearly straight down as he could. The best he could do was five degrees from the vertical. He had to brace himself to hold the airplane in that position.

The roar of the motor grew louder. The wind screamed through the plane. Lee learned later that people ten miles away heard that part of his dive. He flicked the switch, shutting off the motor to keep it from tearing itself out of the airplane. Motors do that, sometimes, in a diving plane.

Killing the motor, however, did not slow the speed of the airplane. Lee didn't expect it to. He started down at the rate of 200 miles an hour. At the end of the first mile, he was going almost straight down and moving at 400 miles an hour!

Gehlbach was not through yet! There is a limit to the speed at which an airplane can fall, but this one had not reached that limit. It would do that during the next mile down, and it was part of Lee's job to discover how fast the airplane would fall in a dive. The Army needs to know exactly how fast an airplane can dive, especially if that plane is going to be used in bombing. The Army learns about that speed from the test pilots.

The needle on the air-speed dial sneaked on around

its circle. It touched 450, 500, 600, and stopped. Lee thought that was rather good and he wrote the number on his pad. Six hundred miles an hour; that was ten miles a minute. Certainly not bad! That is faster than the speed of a bullet just leaving a revolver. Lee was going that 600 miles an hour straight down!

Another needle trembled at the number 10,000. That meant that the airplane had dived to 10,000 feet from the earth, a little less than two miles. It was time for the pull-out, the jerk upward which ends the dive, and often ends the life of both airplane and pilot.

If you have ever been riding in an automobile that turned a corner suddenly while going fast, you will remember how you were thrown against the side, or against the person sitting next to you. If you had been heavier, you would have been thrown harder. When Lee made the pull-out, he was fighting that same force, but it was much stronger than the one felt in a car.

There was another difference. Lee was coming down, so when he tried to level off, on the pull-out, he was pushed down instead of to one side. Actually he was pushed into his seat with a force equal to more than seven times his weight. That force has been known to push the body organs of test pilots out of place, or to break their backbones. It drives the blood from the head for a while. Unless the plane is built to stand it, the force does equally serious things to the machine.

Lee did not have time to worry about all these things. He pulled the controls. A soft hammer that weighed tons seemed to pound him. He clung to the controls, fighting to keep his consciousness. There was a loud crack. The left wing ripped completely off. Part of it



crashed through the windshield. Everything went black for Lee, and he fell into a state of unconsciousness.

When Gehlbach regained consciousness, the plane was still spinning, nose down, at a speed of between four and five hundred miles an hour. The left wing was gone; the right one was loose. Lee decided it was time to leave. In a way he felt lucky. At the pull-out in some tests the wings of the airplane had folded up and trapped the pilot inside.

Lee climbed up on the side and jumped clear. At first he tumbled, head over heels. Then he straightened out, head down, and fell like a rock. He remembered not to pull the ring that would open his parachute. He must not let it open yet. He was falling at more than four hundred miles an hour. At that speed, an open parachute rips wide apart.

The ground was rushing up to him. There was not much time left. Lee pulled the ring. The parachute snapped open, jerking the test pilot to a sitting position. Looking up, he saw the sky showing through the widening seams. He had not waited long enough!

There were woods below, but they no longer looked like a soft, green carpet. Lee dropped fast. The wind whistled through the tears in the 'chute over him. Something hit him on the head, and things went black.

When Lee opened his eyes, he was swinging gently, three feet from the ground. What was left of his parachute was caught in the trees above him. His head hurt—in fact, he was all one big hurt, but he still felt lucky. The plane's last dive had not been his last one. Anyway, he was paid to get hurt, and by finding out that this plane could not "take it" he had saved others.

Everything seemed fair enough, any way he looked at it. He was still in a single piece, at least, which was more than could be said for the airplane. It was found scattered here and there over a two-mile circle.

Lee says he is pretty sure he will like heaven after he gets there. Does he intend to sit around and rest? Not at all. He is going to keep busy testing new wings for the angels.

#### ACTIVITY

Number your paper from 1 to 10. After each number write T or F to indicate whether the statement is true or false.

1. This article tells about Lee's testing an airplane which the U. S. Army was thinking of buying.
2. Lee took the plane up nearly eight miles before he leveled off.
3. Lack of oxygen made him feel light-headed.
4. Loose objects are dangerous in a diving plane.
5. During the dive Lee recorded on a writing pad the different instrument readings.
6. While diving, Lee kept the motor running so that it would not tear itself out of the plane.
7. The top speed of Lee's diving plane almost equaled the speed of a bullet just leaving a revolver.
8. The pull-out ending the dive pushed Lee into his seat with a force equal to more than seven times his weight.
9. Lee pulled the ring of his parachute as soon as he jumped from the plane.
10. Lee probably would have been killed if he had not landed among the trees.

*Check your answers with those on page 555*

## Reading a Newspaper

After reading this article, you should know five ways in which you can improve your ability to read a newspaper. You should know, also, seven departments, or types of content, that are contained in a newspaper.

Newspapers differ from one another in a number of ways. If a person should examine any two newspapers published the same day, he would find that they are different in many ways. One may have more comic strips. The other may have more articles on international affairs, more space devoted to crime news, or more advertising. One may be written in a way that is easy for a child to understand, while the articles in the other may be written in a way that only an adult could enjoy.

Newspapers are different because readers are different. A person interested chiefly in comic strips naturally will buy the newspaper that contains the most "funnies." One who likes to read about the news in other countries will be inclined to buy the paper that devotes much space to international news. If a reader is especially interested in sports news, the newspaper that contains the largest number of articles on his favorite sport will probably be the newspaper that will make the greatest appeal to him.

Some newspapers are bought because of the language in which they are written. The person whose native tongue is French will buy a newspaper written in that language. Italians, Spaniards, Hebrews, and Germans

may buy newspapers written especially for them in the language they can understand best.

Large cities usually support several newspapers. In smaller cities there may be only one daily newspaper. In most villages only one newspaper is published, and as that usually is published only once a week, it emphasizes local news.

With so many newspapers being published, each different from the others in some respects, the task of the reader in choosing the newspaper most suitable for him becomes important. In a class that had studied a large number of newspapers each student was asked to select the one he would like to read every day and to give the reasons for selection of that particular newspaper. Some of the reasons given were:

1. It contains a daily column by Frank Kent.
2. It has the greatest amount of local news in it.
3. It prints a column every day on book reviews.
4. It contains more advertisements of local stores, and therefore shows where the best available bargains are.
5. It contains more and better comics.
6. It uses many pictures to help tell the news stories.
7. It gives the best idea of what is going on in the world outside our city.
8. It is the only paper that prints social news about the people of our city.
9. I believe in the things the editor writes about in the editorials.
10. It has a section devoted to the 4-H clubs each week.

There are so many interesting things in a good newspaper that one can spend hours reading it. Several

years ago *The New York Herald Tribune* printed a full-sized book containing all the material, except advertising, that had been in one issue of their newspaper. They wanted to prove that the complete reading of each issue would require as much time as would the reading of a novel.

Few people, of course, read every word in a newspaper. They usually turn to their favorite parts one after the other. If one does not know the parts of a newspaper, there is danger that he may miss some of the most interesting and informative content.

Not all newspapers have the same types of content, but in many of them the reader will find that these are important:

*Front page:* The space on the front page is the most valuable part of the paper and therefore is used for only the most important articles. The space is so valuable that often only the first parts of articles are printed, the other parts being continued on other pages. This practice permits the editors to get more headlines, and therefore more articles, on the front page.

The most important article on the front page is usually given the space in the upper right-hand corner. The second most important article has the upper left-hand corner position.

Most newspapers place on the first page local, national, and international news. Other newspapers, like the *Baltimore Sun*, use the first page for only national and international news. The last page is reserved for important local news.

*Editorial page:* The editorial page is usually one of the inside pages. On it are printed the opinions of the

editorial writers regarding important matters affecting the community, the country, and other countries. It should be remembered, however, that editorials are opinions, not news facts. The reader has the privilege of agreeing or disagreeing with the editorial writers.

Often there are no news articles found on the editorial page. Besides editorials, the page frequently contains "Letters to the Editor," poems, and columns written and signed by important writers whose opinions on news events or other matters are considered valuable.

Any reader may write a letter to the editor. If the letter is reasonably well-written, it may be printed. These letters express opinions agreeing or disagreeing with the editor. The "Letters to the Editor" column gives every reader an opportunity to express his opinion just as the editor states his on the editorial page.

Many of the columns on the editorial page are syndicated; that is, the newspaper buys the column from a company whose business it is to sell such material to newspapers in all sections of the country. The column, "Fair Enough," by Westbrook Pegler, is bought by scores of newspapers. So is Paul Mallon's column, "News Behind the News." A column dealing with children's problems, written by Angelo Patri, a New York schoolmaster, appears in many different newspapers and is read by millions of people.

*Sports page:* Most newspapers have at least one page devoted to sports. Much of the news on this page is concerned with the athletic events occurring in the community. Some space is usually given to national sports. Football results in prominent colleges, Davis Cup tennis matches, championship boxing matches, and the

baseball results in the American and National Leagues are read eagerly by numerous people every day.

*Comics:* Some papers center all their comics on one page. Others scatter them over many pages. Some newspapers, like the *New York Times*, carry few comics. Others carry several pages of them.

Practically all comic strips are syndicated. They are bought from companies who hire cartoonists and sell their work to many newspapers. Very few individual newspapers could afford many comic strips if they had to pay each cartoonist a full salary.

*Social page:* The social page is usually written by women reporters. They secure news regarding marriages, engagements, parties, and meetings. Whenever possible, they print pictures of persons mentioned.

Many of the articles contained on this page are telephoned to the social page editor by persons who are giving the parties or conducting the meetings because reporters cannot attend every wedding, party, and meeting that occurs.

*Advertising:* It is advertising that makes most newspapers possible. One large New York paper that sells for three cents a copy actually costs about twelve cents a copy to print. The money paid by advertisers makes this three-cent newspaper profitable.

There are two types of advertising used in newspapers. One is called display advertising; the other is classified advertising. Display advertising consists of the large advertisements, sometimes several pages in length, which inform the public of merchandise being sold by particular stores or companies. Candidates for public office also use display advertising space.

Classified advertising is usually sold by the line. A typical classified advertising section may advertise lost and found articles, a sale of used automobiles or household goods, opportunities for work, opportunities for investment, apartments and houses for rent, houses for sale, and auction sales.

*Special features:* Some newspapers carry special sections only once each week. Church news is often printed on one page each Saturday, perhaps with the title of the sermon to be preached in each church. Frequently school news is treated the same way, a school page appearing weekly.

Other special sections appear every day. The theatrical section, in which movies and stage plays are reviewed, is usually found on the page containing theater advertisements. Many papers have added a daily radio section for the benefit of readers who are interested in radio programs.

In order to serve the people who live in the suburbs and surrounding villages, some of the large city newspapers carry a separate page or section about near-by places. This page or section is often called the Suburban Section.

Because people differ in their interests and in their likes and dislikes, many newspapers have added large numbers of special feature sections. There are sections about etiquette, stamp collecting, music, health, and other subjects. The modern city newspaper is really many newspapers in one.

#### ACTIVITY

List on your paper seven types of content you may find in a newspaper.



## Improving Your Newspaper Reading

There are five ways in which the ability to read a newspaper can be developed. They are:

*By careful selection of a newspaper.* A newspaper that contains articles in which the reader is interested will do more to develop ability to read a newspaper than will one that has few articles of interest to the reader.

*By learning how to read headlines.* Very few persons have time to read every article in a newspaper. If headlines are correctly written, they will tell at a glance what is in the article. A reader who can read headlines quickly has little trouble in selecting the articles he wants to read in detail. The following are a few samples of newspaper headlines:

**MILK SAMPLES SHOW  
DUST CONTAMINATION**

**NIAGARA SPAN BUCKED BY FLOES**

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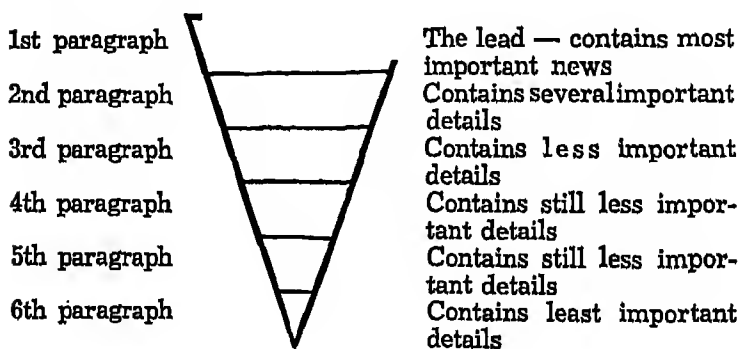
**Huge Arch Broken by Pressure**

***Burlington High Tops  
Riverside High Five***

*By learning the page placement of different items.* Readers who know exactly where to find the information they want waste little time. They know, for example, that sports are found on a certain page. They know

where the "Help Wanted," "Lost and Found," and "For Rent" advertisements are located. They know which pages contain social news, editorials, local news, church news, and columns by famous writers.

*By learning the "pattern" of the usual news article.* A news article is built like an inverted pyramid. The most important facts are contained in the first paragraph, which newspapermen call the "lead." The paragraphs which follow provide the details in order of importance. The last paragraph contains the least important details.



Knowledge of the pattern of a news article helps the reader. A reader who is in a hurry, but who wants to get the main facts of a story, need read only the first paragraph or the first few paragraphs. (The news on pages 46-47 shows the pattern that news articles follow.)

*By reading the newspaper regularly.* A newspaper contains a large group of articles that may be called serials, or continued stories, and another group that may be called short or complete stories. In 1942, when Japan was fighting United States, every news article was part

of a continuous story. Persons who read every issue of the newspaper secured a complete picture of the happenings. Those who read the newspaper at infrequent intervals received an incomplete picture that contained many blank spots.

The irregular reader suffers even in regard to the short or complete stories—those events that occur once and are then never repeated. During the days that he fails to read the newspaper, many important events occur—discoveries, deaths, and accidents. They are often mentioned in the newspaper only once. The infrequent reader may never know that certain events occurred.

#### ACTIVITIES

1. List the five ways you may improve your reading of the newspaper.
2. Have someone hold the front page of an unread newspaper before you for one minute while you read only the headlines. Then tell as much of the news as possible.
3. Examine a column of either "Help Wanted" or "Lost and Found" items. Were any abbreviations used? Give the interpretation of them.
4. Write news stories about some school event, using the "pattern" explained on page 44.
5. Find these words in the glossary in the back of the book; then use each in a sentence to show you know its meaning.

international

etiquette

editorial

issue

classified

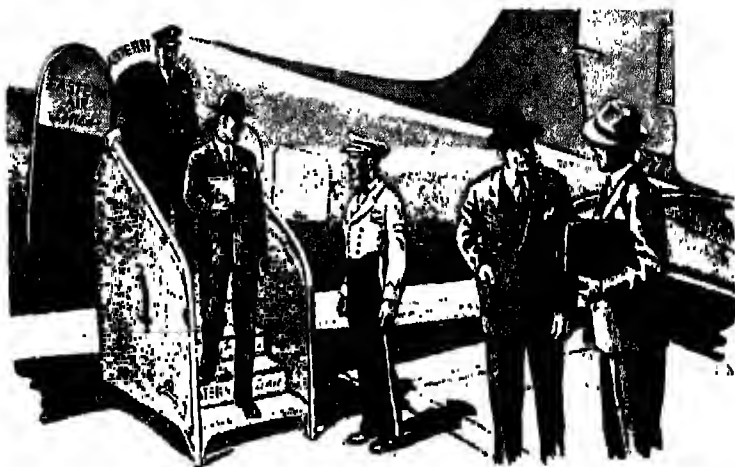
permanent

features

merchandise

## Read the News

As you read this newspaper article, note the pattern used for it. How many paragraphs would you need to read to get the most important facts in this piece of news?



### AIRLINER SAFE

#### AFTER ALL NIGHT STORM BATTLE

##### Pilot Guided to Haven of Hartford, Conn. Airport

HARTFORD, CONN., JAN. 25 (U.P.)—Lost for almost seven hours in a terrific gale, an Eastern Air Lines transport, carrying two passengers and a crew of three, landed at Hartford Airport, early today, approximately 100 miles off its course.

Pilot Fred Jones brought the big ship down safely as the indicators on his gasoline tanks approached dangerously near the zero mark. Since 8:32 P.M. he had been fighting miserable weather hoping to find a "hole" through which he might reach Washington, D.C., his first scheduled stop after taking off from the Newark, N. J., airport.

The plane landed here in weather almost as bad as that which it had encountered in Pennsylvania and New Jersey. It was raining, and a strong wind was blowing the rain in sheets across the muddy field.

After leaving Newark, Jones decided to turn back. Then he became completely lost. Apparently he flew in circles for several hours. He reported seeing lights, but had no idea

what they represented. As radio operators tried to determine his position, he sent word that his gasoline was almost exhausted, that he was holding back on the throttle in an effort to conserve it.

#### All Lights Turned On

Every airport from Newark to Washington was prepared to guide the twin-motored ship to safety. Lights had been turned on, and emergency crews had been called out.

### ACTIVITIES

1. Bring to class a copy of the newspaper read in your home. Examine the newspaper and make a list of parts or sections into which it is divided.
2. List the parts or sections of the newspaper which you are in the habit of reading. Discuss the variations in preferences of members of your class and reasons for the popularity of some sections of the newspaper over others.
3. After discussion, plan a program to enlarge the scope of newspaper reading.
4. Compare two newspapers to find which is more interesting to you.
5. Read one good newspaper editorial. On what news information was it based?

## Skimming

Skimming is a valuable reading skill if one knows when to use it and how to do it. This article explains *when* and *how* to skim.

### WHEN TO SKIM

Riders on busses and trains have often noticed nearby passengers turning the pages of their newspapers rapidly. The observers have probably wondered, "Are they really reading or just turning the pages?" The answer is that, because the readers have only a few minutes to look at the newspapers, they have learned how to get a general idea of the news for the day without any loss of time. They do it by skimming.

When a reader buys a new magazine, he probably reads the titles of the stories and reads any line description found under the title that tells what the story is about; he looks at the pictures, and reads the descriptions placed under them. He skims through the magazine to get a general idea of what is in it and perhaps to decide which story or article he will read first.

Often a customer entering a bookstore examines a large number of new books. He does not have time to read any of the books completely. Instead, he may look at the table of contents and read a few lines of the preface to find out what the book is about. If the book seems interesting, the customer leafs through the chapters and reads sentences here and there. He secures a general idea of the subject of the book, the quality of the writing, and its probable interest for him.

One who is reading a short story or a light novel for recreation usually skims through the pages to get the general drift of the story. He skips paragraphs, even pages, and reads only enough to get the skeleton of the story.

When a student gets a new book either in school or at home, it is a good plan to spend a few minutes skimming through it to get a general idea of what the book is about and how it is organized. He may read the table of contents, glance through the various chapters in the book, read the headings and some of the sub-headings, and look at the illustrations.

Some students make it a practice to skim through an assignment in a textbook to get a general idea of the content before they read it carefully. Careful reading enables them to add details to the general ideas they secured through skimming.

A student may need to locate in a book information that cannot be found by using the table of contents or the index. By skimming he can find the desired information without a great expenditure of time.

### How to SKIM

There are a number of different ways to skim. The following are some of the ways of skimming which readers should practice:

1. Reading the lines very rapidly, but skipping many words to get the general thought in an article or story.
2. Reading a line or parts of lines here and there to get the general thought in the article or story.
3. Reading the first lines in each paragraph or the first

and last lines in the paragraph. Articles in newspapers, magazines, and textbooks often give the main thought in the first line of each paragraph. Sometimes the thought of the paragraph is summarized in the last sentence. By reading a few paragraphs of an article the reader can tell where the writer customarily places his topic sentence.

4. Reading in which the eyes drift from side to side down the middle of the page or column. This method of skimming takes a great deal of practice, but is a good way to get a general idea of the meaning of an article.
5. Reading headlines and subheadings rapidly, glancing at pictures and other illustrations, and reading the captions under them. This method is useful in newspaper reading and in the quick examination of books.

#### ACTIVITIES

1. List five occasions when you could use skimming.
2. Describe briefly five ways of skimming.
3. On your paper write the letters that indicate which of the following should be read by skimming:
  - a. A recipe
  - b. The latest baseball news
  - c. A magazine for purpose of finding a good story
  - d. Directions for proper care of a football
  - e. A group of books in order to select one of them as a gift
  - f. A notice on the bulletin board



## Skimming the Newspaper

The following article appeared in the *New York Times* of October 31, 1938. Skim it by reading the first paragraph, the first line or sentence in other paragraphs, and other phrases and sentences which help you to get a general idea of the article. Try to skim the article in two or three minutes.

### RADIO LISTENERS IN PANIC, TAKING WAR DRAMA AS FACT

Many in This Area Flee Homes to Escape "Gas Raid"—  
Phone Calls Swamp Police at Broadcast  
of Welles' Fantasy

A wave of mass hysteria seized thousands of radio listeners throughout the nation between 8:15 and 9:30 o'clock, Eastern Standard Time, last night after they had been led by the broadcast of a radio dramatization to believe that a "war of the worlds" had started with its first catastrophe centered in New Jersey.

In Newark, in a single block at Heddon Terrace and Hawthorne Avenue, more than twenty families rushed out of their houses with wet handkerchiefs and towels over their faces to flee from what they believed was to be a gas raid. Some began moving household furniture.

Throughout New York families left their homes, some to flee to near-by parks. Thousands of persons called the police, newspaper offices, and radio stations, seeking advice on protective measures against the raids.

The hysteria was caused by a broadcast of a realistic version of H. G. Wells's fiction fantasy, "The War of the Worlds." The broadcast was by Orson Welles and the Mercury Theatre of the Air over Station WABC and the Columbia Broadcasting System's coast-to-coast network.

The radio play, as presented, was to simulate a regular radio program with a "break-

in" for the material of the play. The radio listeners, apparently, missed or did not listen to the introduction, which was: "The Columbia Broadcasting System and its affiliated stations present Orson Welles and the Mercury Theatre on the air in 'The War of the Worlds,' by H. G. Wells."

They also failed to associate the program with the newspaper listing of the program, announced as "Today: 8:00-9:00 — Play: H. G. Wells's 'War of the Worlds' — WABC." People ignored four other announcements of the fictional nature of the broadcast.

Mr. Welles opened the program with a description of the series of which it was a part. The simulated program began. A weather report was given, prosaically. An announcer remarked that the program would be continued from a hotel, with dance music. For a few moments a dance program was given in the usual manner. Then there was a break-in with a "flash" about a professor at an observatory noting a series of gas explosions on the planet Mars.

News bulletins and scene broadcasts followed, reporting, with the technique in which the radio had reported actual events, the landing of a "meteor" near Princeton, N. J.,

"killing" 1,500 persons, the discovery that the "meteor" was a metal "cylinder" containing strange creatures from Mars armed with "death rays" to open hostilities against the inhabitants of the earth.

Despite the fantastic nature of the reported "occurrences" the program, coming after the recent war scare in Europe and a period in which the radio frequently had interrupted regularly scheduled programs to report developments in the Czechoslovak situation, caused fright and panic throughout the area of the broadcast.

Telephone lines were tied up with calls from listeners or persons who had heard of the broadcasts. Many sought first to verify the reports. Large numbers, obviously in a state of terror, asked how they could follow the broadcast's advice and flee from the city, whether they would be safer in the "gas raid" in the cellar or on the roof, how they could safeguard their children, and many of the questions which had been worrying residents of London and Paris during the tense days before the Munich agreement.

So many calls came to newspapers and so many newspapers found it advisable to check on the reports despite their fantastic content that The Associated Press sent out the following at 8:48 P.M.:

"Note to Editors: Queries to newspapers from radio listeners throughout the United States tonight regarding a reported meteor fall which killed a number of New Jerseyites, are the result of a studio dramatization. The A.P."

Similarly police teletype systems carried notices to all stationhouses, and police short-wave radio stations notified police radio cars that the event was imaginary.

Message from the Police

The New York Police sent out the following:

"To all receivers: Station WABC informs us that the broadcast just concluded over that station was a dramatization of a play. No cause for alarm."

The New Jersey State Police teletyped the following:

"Note to all receivers — WABC broadcast as drama re this section being attacked by residents of Mars. Imaginary affair."

From one New York theater a manager reported that a throng of playgoers had rushed from his theater as a result of the broadcast. One of those who called the *New York Times* to verify the report said that the wives of two men in the audience, having heard the broadcast, called the theater and insisted that their husbands be paged. This spread the "news" to others in the audience.

The switchboard of *The Times* was overwhelmed by the calls. One man who called from Dayton, Ohio, asked, "What time will it be the end of the world?" A caller from the suburbs said he had had a houseful of guests and all had rushed out to the yard for safety.

At 9 o'clock a woman walked into the West Forty-Seventh Street Police Station dragging two children, all carrying extra clothing. She said she was ready to leave the city. Police persuaded her to stay.

Thousands of calls came in to Newark Police Headquarters. These were not only from the terror-stricken. Hundreds of physicians and nurses, believing the reports to be true, called to volunteer their services to aid the "injured." City officials also called in to make "emergency" arrangements for the population. Radio cars were stopped by the panicky throughout the city.

Jersey City police headquarters received similar calls. One woman asked Detective Timothy Grooty, on duty there, "Shall I close my windows?" A man asked, "Have the police any extra gas masks?" Many of the callers on being assured the reports were fiction, queried again and again, uncertain in whom to believe.

Scores of persons in lower Newark Avenue, Jersey City,



left their homes and stood fearfully in the street, looking with apprehension toward the sky. A radio car was dispatched there to reassure them.

The incident at Heddon Terrace and Hawthorne Avenue, in Newark, one of the most dramatic in the area, caused a tie-up in traffic for blocks around.

The more than twenty families there apparently believed the "gas attack" had started, and so reported to the police. An ambulance, three radio cars and a police emergency squad of eight men were sent to the scene with full inhalator apparatus.

They found the families with wet cloths on faces contorted with hysteria. The police calmed them, halted those who were attempting to move their furniture on their cars,

and after a time were able to clear the traffic snarl.

Samuel Tishman, of 100 Riverside Drive, was one of the multitude that fled into the street after hearing part of the program. He declared that hundreds of persons evacuated their homes fearing that the "city was being bombed."

"I came home at 9:15 P.M. just in time to receive a telephone call from my nephew who was frantic with fear. He told me the city was about to be bombed from the air and advised me to get out of the building at once. I turned on the radio and heard the broadcast which corroborated what my nephew had said, grabbed my hat and coat and a few personal belongings and ran to the elevator. When I got to the street, there were hundreds of people milling around in panic. Most of us ran

toward Broadway and it was not until we stopped taxi drivers who had heard the entire broadcast on their radios that we knew what it was all about. It was the most asinine stunt I ever heard of."

"I heard that broadcast and almost had a heart attack," said Louis Winkler of 1322 Clay Avenue, the Bronx. "I didn't tune it in until the program was half over, but when I heard the names and titles of Federal, State, and Municipal officials and when the 'Secretary of the Interior' was introduced, I was convinced that it was the 'McCoy.' I ran out into the streets with scores of others, and found people running in all directions. The whole thing came over as a news broadcast and in my mind it was a pretty crummy thing to do."

#### Police Get Phone Calls

The state, county, parkway, and local police of Westchester County were swamped also with calls from terrified residents. Of the local police departments, Mount Vernon, White Plains, Mount Kisco, Yonkers, and Tarrytown received most of the inquiries. At first the authorities thought they were being made the victims of a practical joke, but when the calls persisted and increased in volume, they began to make inquiries. The New York Telephone Company reported that it had nev-

er before handled so many calls in one hour in Westchester.

One man called the Mount Vernon Police Headquarters to find out "where the forty policemen were killed"; another said his brother was ill in bed listening to the broadcast. "I'm nearly crazy!" the caller exclaimed.

Because some of the inmates took the catastrophic reports seriously as they came over the radio, some of the hospitals and the county penitentiary ordered that the radios be turned off.

The Telegraph Bureau switchboard at police headquarters in Manhattan, operated by thirteen men, was so swamped with calls from apprehensive citizens inquiring about the broadcast that police business was seriously interfered with.

Headquarters, unable to reach the radio station by telephone, sent a radio patrol car there to ascertain the reason for the reaction to the program. When the explanation was given, a police message was sent to all precincts in the five boroughs advising of the cause.

"They're Bombing New Jersey!"

Patrolman John Morrison was on duty at the switchboard in the Bronx Police Headquarters, when, as he afterward expressed it, all the lines became busy at once.

Among the first who answered was a man who informed him:

"They're bombing New Jersey!"

"How do you know?" Patrolman Morrison inquired.

"I heard it on the radio," the voice at the other end of the wire replied. "Then I went to the roof and I could see the smoke from the bombs, drifting over towards New York. What shall I do?"

#### Tries to Warn Theater

In Orange, N. J., an unidentified man rushed into the lobby of the Lido Theater, a neighborhood motion picture house, with the intention of "warning" the audience that a meteor had fallen on Raymond Boulevard, Newark, and was spreading poisonous gases. Skeptical, Al Hochberg, manager of the theater, prevented the man from entering the auditorium of the theater and then called the police. He was informed that the radio broadcast was responsible for the man's alarm.

Mr. Hochberg said the man told him he had heard of the "meteor" while listening to the radio in his home and that

persons living on Lakeside Avenue in Orange were leaving their homes and heading for the Orange Mountains because they reasoned the only chance of their escaping the lethal fumes was in getting to high ground. Police stations throughout suburban Essex County were swamped by calls from alarmists.

A flickering of electric lights in Bergen County from about 6:15 to 6:30 this evening provided a build-up for the terror that was to ensue when the radio broadcast started. Without going out entirely, the lights dimmed and brightened alternately and radio reception was also affected. The Public Service Gas and Electric Company was mystified by the behavior of the lights, declaring there was nothing wrong at their power plants or in their distributing system. A spokesman for the service department said a call was made to Newark and the same situation was reported. He believed, he said, that the condition was general throughout the state.

—The New York Times

### ACTIVITIES

1. What was the play about?
2. Describe two or three things people did in their fright.

3. What do you consider the most amazing fact about the event described in this news item?
4. If all the people who were panic-stricken by the broadcast had been regular readers of newspapers, what information might they have had that would have helped them realize the dramatized event was not a real one?
5. Look up these words in the glossary; then write each in a sentence to show its meaning.

hysteria	obviously
version	affiliated
simulate	evacuated
meteor	hostilities
panicky	prosaically
fantastic	overwhelmed
teletype	apprehension
lethal	corroborated
boroughs	catastrophic

## More News

In May, 1941, all the world was interested in the struggle between powerful nations. The sinking of the Bismarck made the headlines. Skim to locate the important facts.

### TELL THRILLING TALE OF SINKING THE BISMARCK

Land Nazi Survivors Who  
Believed Their Ship  
Was Unsinkable

A BRITISH PORT, MAY 31.—  
(UP)—Some 85 survivors of the Bismarck were landed at this British port early yesterday under close guard by British sailors with fixed bayonets. Shortly after landing here the prisoners were taken to a camp for internment.

"Every man on the Bismarck was convinced the vessel was unsinkable," a British officer said. "When they felt her going down they got the shock of their lives." Many prisoners appeared subdued and downhearted.

#### Withstood Punishment

A British naval officer who participated in the fight said the German dreadnaught ap-

peared closer to 50,000 tons than the rated figure of 35,000 tons. He said that it appeared that the Bismarck was larger than the Hood, 42,100 tons, which was thought to be the largest capital ship afloat.

"The Bismarck was a colossus which withstood terrific punishment," the officer said. "She undoubtedly was above anything we thought of and 50,000 tons must have been necessary to give her such strength."

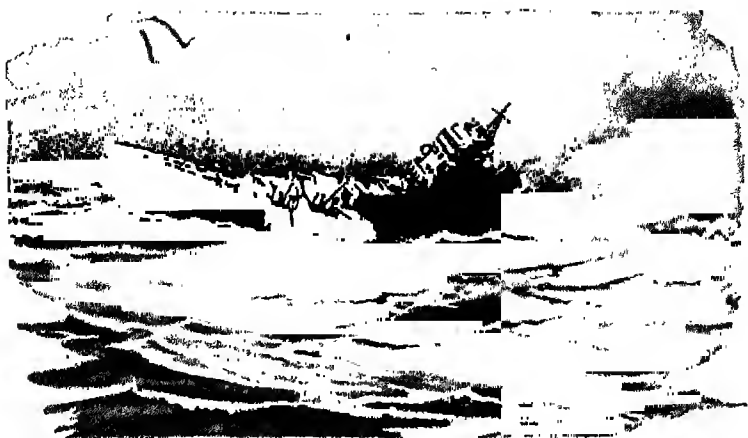
He said that in addition to being hit with shells, the Bismarck was hit with three torpedoes from aircraft and two from destroyers, another or possibly two from the battleship Rodney and another from the cruiser Norfolk.

But despite this pounding, he said the Bismarck was still afloat until the final torpedoes of the Dorsetshire sank her.

#### Ark Royal Sent Planes

"The first crippling blows struck at the Bismarck," said the officer, "came from planes of the 'much sunk' Ark Royal.





They reduced the Bismarck's speed to such a point that interception was practically inevitable.

"Destroyers maintained touch and ultimately the home fleet came up, the King George V in company with the Rodney."

He said the Bismarck went down with her colors nailed to the masthead. Other officers agreed that the Bismarck fought to the end with great bravery. The officers arrived here aboard a warship which carried 24 survivors from the Bismarck, all seamen in their early 20's, clad in white duck uniforms.

British officers said that British warships discontinued operations to rescue the Bismarck's crew only after severe air attacks by the German air force.

Describing the climax of the battle to sink the Bismarck, an officer said that the

Rodney and George V feared they would never catch up with the German warship until Monday night when they received word that the ship was moving to the west.

#### To Attack at Dawn

The British commander in chief, they said, decided to attack the Bismarck at dawn. The British officers said that by this time the enemy "was having a very thin time of it."

"Daylight came very slowly," an officer said. "The water was unpleasant. At 9 a. m. came the order from Admiral J. C. Tovey of the home fleet to the battleships to attack.

"Soon the enemy was sighted dead ahead at a distance of 13 miles. Not long afterward the Rodney opened fire. Two minutes later the George V opened fire. The Bismarck replied immediately.

"The Bismarck seemed hardly under control, steering very wild. The ship was moving at

"We sent word to the authorities and in the meantime he chatted freely to us and showed us pictures of his little boy, of whom he spoke very proudly.

"He told us he had left Germany about four hours before and had landed because nightfall was approaching. I could see from the way he spoke that he was a man of culture. His English, altho it had a foreign accent, was very clear and he understood every word we said to him.

#### Refuses to Discuss Journey

"He was a very striking looking man wearing a magnificent flying suit. His watch and identity bracelet were of gold.

"He wouldn't discuss his journey. He was most gentlemanly in his attitude to my mother and sister and thanked us for what we had done for him. He was most anxious

about the parachute, which he said he'd like to keep because it saved his life. He wouldn't tell us who he was, and we thought he was just another German airman.

"When the officials came he greeted them with a smile and assured them he was unarmed and stood up and allowed them to search him. Then he was taken away."

Later McLean was shown a picture of Hess and said: "That's the man. We have no doubt about it."

#### Intended to Land Plane

LONDON, MAY 13, TUESDAY (AP).—The Daily Express today quoted Rudolf Hess as saying after landing in Scotland: "I had intended landing the plane but I could not find a suitable landing ground so I stalled the machine over the open country and jumped out."

—*The Chicago Tribune*

### ACTIVITIES

1. What part of the news article was most exciting?
2. Who was Hess?
3. A word used in the headline of this article is repeated in the first paragraph, but it is spelled differently. Both spellings are correct. Find in a dictionary which one is preferred.

## Skimming Book Reviews

Selection of books may be based on opinions expressed in book reviews. These reviews, or brief descriptions of books, are found in publishers' catalogues, advertisements in magazines and newspapers, and in the book sections of Sunday editions of large city newspapers. Your local library probably subscribes to the Sunday editions of newspapers offering such reviews.

The pages which follow give the titles of a number of books, the names of their publishers, and a descriptive paragraph in "book review" style. You are to skim over these book descriptions and select the book which you would like best to read. First, skim over all the descriptions. Select two or three books which interest you. Then, reread the reviews of these two or three and select the one which you think describes a book that would be of greatest interest to you.

### *The World of Animals—The Story of Animals* by Mary Bowen Stephenson

This book describes the animal world and analyzes the characteristics of its members. It tells why a cat's eye has a long narrow pupil. It explains why a frog's eyes are placed on top of its head. It explains why a fly sees so well in all directions. It shows why the tiger is striped. It describes how the horse's hoofs help make him a fast runner. It tells why Nature equips some animals with "front" eyes, others with "side" eyes, some with "front" nostrils, others with "side" nostrils. In

fact, what the mouths, teeth, tongues, bills, feet, and coverings reveal about their habits of living is tersely told.

Thomas S. Rockwell Company

*The Book of American Fighting Ships* by Joseph Leeming

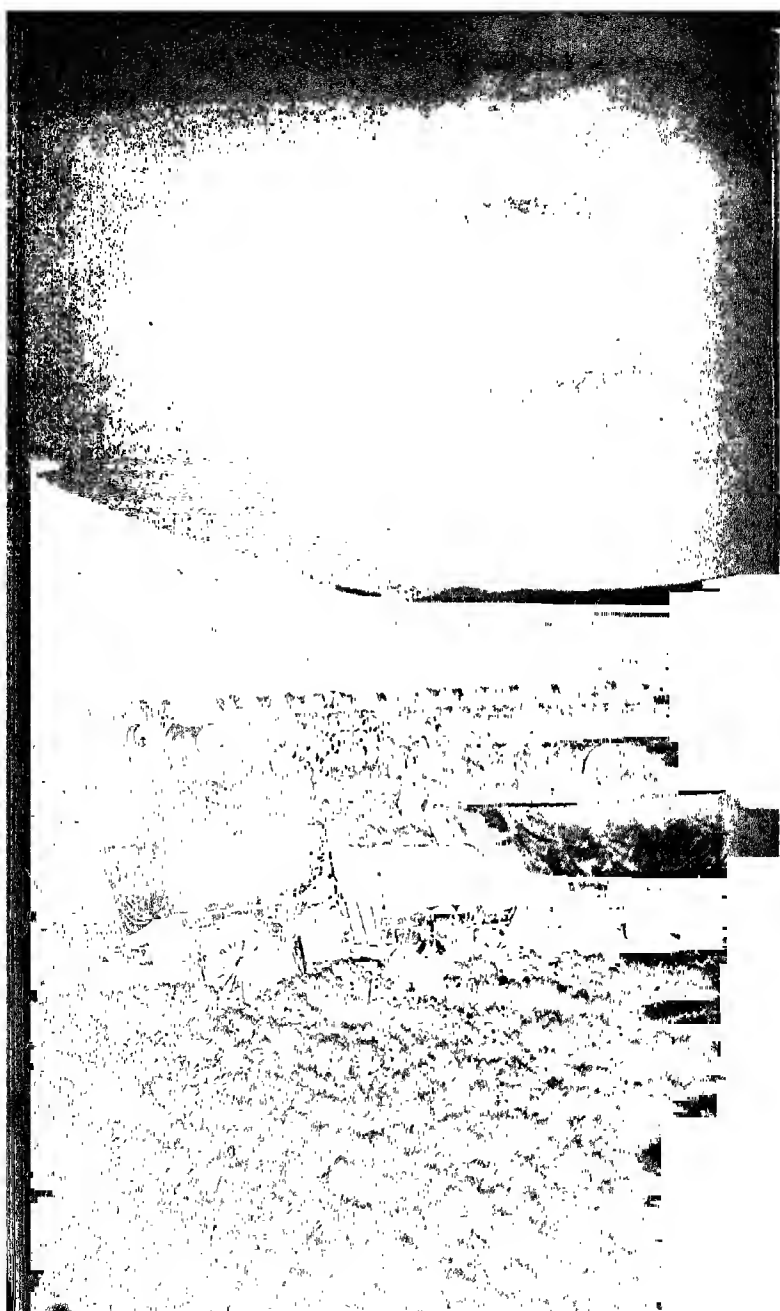
Fighting ships played a great part in the history of the United States. This book tells about those ships from the very first, the *Alfred* down to the destroyers which helped to win the World War. It gives pictures and descriptions. We fight on Lake Champlain with Macdonough and at Mobile with Farragut; we are with young Decatur as he sets fire to our own ship, the *Philadelphia*, as it lies in the harbor of Tripoli; we are aboard the *Constitution* in her fierce battle with the *Guerriere*; and off British Guiana on the *Hornet* we fight and overcome the English *Peacock*. Mr. Leeming, author of *Ships and Cargoes* and *Claudius the Bee* has collected to go with his exciting text twenty-six old prints and paintings. In addition, the book contains a map, by Kathleen Voute, showing the scenes and dates of important naval engagements.

Harper and Brothers

*Blue Mountain* by Margaret Young Lull

*Blue Mountain* is the story of April and her life in Blue Pocket, in the valley of the Sierras. April seems to be caught securely by circumstances into the round of life as a mountaineer, with no chance to live or study in the outside world. It is a dramatic story of how Fate, a water flume, and a forest fire played into her hands





and brought her the opportunity to broaden her life so that she might bring back to her valley and her mountains a fuller life. There is adventure enough to hold the interest of the jaded adult reader, a touch of romance to meet the demands of the adolescent girl who is looking for a love story, and a rich background of nature for showing the science of up-to-date forestry. Against this background the characters stand out as real human beings. It is a modern story of a little-known mountain section of our own country. The artist has interpreted in her illustrations the strength and beauty of the mountains and valleys.

Harper and Brothers

*Wheels Toward the West* by Hildegard Hawthorne

Interesting from its first page, *Wheels Toward the West* is a skillfully written story of a boy and girl who go from Philadelphia to Kansas City and join a covered wagon train bound for Santa Fe. They are plunged at once into the hardships, excitement, fun, and daily routine of the Trail. Humorous with characters that really live, this book describes a phase of our frontier life of greatest interest to young people. The two youngsters are captured by hostile Indians, adopted by the old chief and his wife, and taken south to winter with the band. Their life there, much of which they find delightful; their escape aided by Kit Carson and an old trapper, a friend of the covered wagon journey; and their return at last to civilization round out the story. The Indians and life in their camp are also well portrayed.

Longmans, Green and Company

*Wheel, Sail and Wing—The Story of Transportation in  
Picture Strip* by Mary Bowen Stephenson

Starting with the African carriers, the pack horse, and the dog sled, this book tells in picture strip the whole story of transportation.

Portrayed here is the impressive story of travel on land: the highways, the jungle, and the prairie; of travel on water: the oceans, the lakes, the canals, and the rivers; of travel in the air: the balloon and the airplane. Pictures of the railroads, of the horsecar, and the steam locomotive are shown, as well as bridges and ferryboats. This story of travel on land, water, and air is given in simple attractive illustrations which will captivate the young reader with their irresistible charm.

Here are just a few of the interesting questions answered in this book:

What form of transportation did the Indians use?

How were the first wheels made?

When was the first boat used? train? automobile?  
airplane?

How did people find their way from one settlement  
to another before there were any roads?

Thomas S. Rockwell Company

*Indian Legends* by Johanna R. M. Lyback

The American aborigine was a natural storyteller. Seeing, as he did, an omen in every shifting shade of the clouds, a sign in the changing leaf, a token of beauty or ugliness in the different places of the wildwood, he knew no rock nor river, lake nor mountain, valley nor hillside that did not speak of some attraction, some vision of race, some deed of valor, incident of love or



remembrance of wrong. These memories lived in stories that were told and retold to each succeeding generation, from time immemorial.

Johanna Lyback has made an unusual selection of the tales which the red men passed down generation after generation. *Indian Legends* gives the reader an excellent insight into the beliefs of the tribes that once roamed our land.

Lyons and Carnahan

*Jeanne d'Arc—The Warrior Saint* by Jeanette Eaton

On May 30, 1431, Jeanne d'Arc, deliverer of her beloved France, was burned at the stake. Years have not dimmed the glory of her life, and it is most fitting to bring out this biography in the anniversary year of her death. Jeanette Eaton, in this brief but vivid picture of Jeanne d'Arc's life, has captured the background and the spirit of the days in which the young peasant girl wrought her miracles and has made her live again, not a figurehead but a human being, struggling against human frailties and against obstacles that men had failed to overcome. It is perfect introduction for young readers to a life that still holds inspiration after many centuries.

Harper and Brothers

*The Long Defence* by Friedrich Donauer

A colorful and thrilling story built around the siege and capture of Constantinople by the Turks in 1453 is related in this book. The interest is stirred and held from the very beginning when a messenger dashes in breathless haste into the palace of the young prince,

the future Mohammed II, with the news that the Sultan, his father, is dead. Then follows Mohammed's wild ride to Gallipoli, his prompt assumption of the crown, and preparations on a vast scale for the overthrow of the Byzantine Empire and the capture of the city on the Golden Horn. There are vivid pictures of conditions within the beleaguered walls during the "long defence." For young readers the human interest centers in a valiant young lad, Giovannin Grant, son of the most trusted officer—the Genoese hero, Giustiniani, who came at the call of Constantine bringing with him his famous Genoese troops and taking entire charge and responsibility of the city's "defence." Among the graphic and authentic descriptions is a vivid portrayal of the one big sea fight of the whole war—almost won by the Turks when the wind rose again and snatched that victory from them! Events crowd to the last days, when the city must surrender, but in glorious tragedy—after nearly two years of holding out against an enemy which overwhelmingly outnumbers the defenders.

Longmans, Green and Company

#### ACTIVITIES

1. Write the title of the book which you would most like to read.
2. List some reasons for your final choice.

#### SUMMARY ACTIVITIES

1. Discuss situations outside of school in which you have used skimming during the last few days.
2. Tell what occasions you are likely to have for the use of skimming in your everyday reading activities.

## SECTION II

### Vocabulary and Word Study

*The sources of English words and the importance of a large reading vocabulary are discussed in this section. The variations in reading vocabularies in literature, science, history, and mathematics are pointed out. Suggestions are made of ways in which you may best increase your reading vocabulary.*

*The various methods by which you may recognize unfamiliar words are reviewed and a number of practice exercises are given.*



## The Growth of the English Language

This article should be read carefully. Parts should be reread and a mental summary of the article should be made.

Only a little less than a century and a half ago, the English language contained fewer than a hundred thousand words. The number of words, however, is constantly increasing. There are nearly half a million words in the English tongue today. Of course, no one knows every word in the language.

A language grows just as a body grows. Words do not remain the same in meaning year after year. Time, new experiences, and different situations force a language to change. Wars and invasions always have played a large part in the growth of the English language. To understand how it grew requires a study of the history of England.

History tells that the early inhabitants of Great Britain were the Celts. The language they spoke was much different from the English of today. Only a few of their words are now in use; among them are *glen*, *bald*, *babe*, *lad*, *down*, *basket*, *dagger*, *kick*, and *big*.

Many of the Celts who were driven out of England by the Romans moved to Wales and Ireland. The Welsh and some of the Irish still speak a language similar to that spoken by the early Celts.

Julius Caesar, the great Roman general, defeated the Celts. In 54 B. C. he invaded Britain with his warriors

but was unable to remain because his army was needed to fight in other lands. Caesar returned to Britain the next year, 53 B. C., with about 30,000 men and forced the tribes into submission. A hundred years later, however, a new Roman army came to Britain, and made the island a Roman province. For almost 400 years Rome kept soldiers in England. Latin became the official language of the country. Finally, when the great Roman Empire began to crumble, the army was withdrawn.

By the time of the withdrawal of troops, many Latin words had become part of the English language. Especially noticeable today is the number of Latin names of places. The Romans lived in camps, which they called *castra*. This word, slightly changed, appears often on the present map of England in the names of such cities as Chester, Manchester, Winchester, Lancaster, and Leicester. *Colonia*, meaning colony, is seen in Lincoln. *Vicus*, meaning village, appears in Greenwich. *Strata*, meaning leveled, is found in Stratford and in the word street. *Mile*, *lake*, *wall* are among the many other words that entered the English language during the Roman period.

For a few years after the Roman legions had left England, there was peace. Then the Picts, a people living in Scotland, attacked the Celts. The Celts who had been ruled by the iron hand of Roman soldiers for almost 400 years, were in no condition to fight. They invited the Jutes, a North Germanic tribe, to help them. With the Jutes came two other Germanic tribes called the Angles and the Saxons.

The Angles, Saxons, and Jutes were fierce fighters. These tall blonde people were among the few that Rome

had not been able to conquer. They crossed the English Channel in 449 A. D. and pushed back the Picts. Then, because they liked the country, they stayed. The Celts were too weak to force their invited guests to leave. Within a hundred years, the Anglo-Saxons and Jutes actually outnumbered the Celts.

For 600 years, the Anglo-Saxon language was the speech of England. As a result, almost one-third of the words in the present English language are said to be of Anglo-Saxon origin. Most of the words are short, usually of one syllable, and are the names of objects and actions. Some of them are *shoot, child, man, laugh, stone, doom, and God*.

In the seventh century the Anglo-Saxons adopted Christianity as their religion, and as a result many Latin words used by the Church came into use. A few of the more common ones are *church, priest, monk, bishop, creed, and nun*.

In 871, and for a hundred years afterwards, the Danes and Norsemen from the Scandinavian peninsula made frequent invasions of England. Some of them, such as the famous King Canute, even made themselves kings of the island. While the Scandinavians occupied England, some of their words crept into the English language. The words *sky, low, hit, skin, happen, die, anger, clumsy, get, wing, and want* are of Scandinavian origin. Although the Scandinavians were powerful soldiers, they did not go to the British Isles in great numbers. As they never outnumbered the Anglo-Saxons, gradually the Anglo-Saxon peoples regained control of their homeland.

After a time a new enemy appeared on the scene. William the Conqueror, duke of a French territory called



Normandy, decided to try to conquer England. With a great army he crossed the English Channel and in 1066 defeated the Anglo-Saxons in the important battle of Hastings. William set himself up as King and filled almost all of the governmental offices with his Norman friends. Since the Normans spoke French, their language became the language of the King's palace and of the courts of law.

The conquered Anglo-Saxons continued to speak their own language but gradually some French words were used by them. Today many French words are part of the English language. A large number of them deal with war, for the Normans were a very warlike people. Examples are *chivalry*, *soldier*, *enemy*, *battle*, *arms*, *navy*, *peace*, and *officer*. Another group of words borrowed from the French refer to the laws and to the government. Some of these words are *judge*, *prison*, *crime*, *court*, *mayor*, *govern*, *reign*, *state*, and *justice*.

The Normans, of course, were the wealthy people of England because they had taken for themselves many of the most valuable properties in England. It was the



Anglo-Saxons who became the hired workers of the Normans. They took care of the animals, and, as a result, many English words pertaining to animals are from that language. As soon as the animals were killed, cooked, and served to the Norman nobles, however, a French name was given to the meat. An *ox* became *beef* when served on a platter; a *calf* became *veal*; a *pig* became *pork*; a *sheep* became *mutton*; and a *deer* became *venison*.

On the whole, the English language was improved by the addition of Norman words. Anglo-Saxon words were usually short and harsh in sound. In many cases the Normans contributed new words to express the same meanings that were already expressed by Anglo-Saxon words. These words are called synonyms. The following table shows some French synonyms for Anglo-Saxon words:

<i>Anglo-Saxon</i>	<i>French</i>
wish	desire
work	labor
buy	purchase
mild	gentle
luck	fortune

At first the Normans looked down upon the Anglo-Saxons and their rude language. Later, however, the Normans forgot that they had come from France and began to feel that they, too, were English. They began to think of England as their home. In 1362 the English Parliament made English the official language of the law courts.

Up to that time the language had not been called English. Since the Angles were very numerous around

London, the most important city on the island, the language took the name of the Angles. It was called at first Englise, then Englyshe, and finally English.

Many students of history say that the English language has passed through four periods, namely, Anglo-Saxon (450-1150), Old English (1150-1350), Middle English (1350-1550), and Modern English (1550- ).

The most remarkable thing about the English language is its growth. About 23,000 of the half-million words in the language are Anglo-Saxon. The rest have been taken from other languages or invented by persons who needed new words to express new ideas.

Thousands of new words were taken not only from Latin of the Roman soldiers who invaded England, from the Church, and from Latin writers, but also from travelers who returned from foreign countries bringing back new words. They brought back *tea* from China, *candy* from Arabia, and *ukelele* from Hawaii. Manufacturers and inventors have coined other words. The word *kodak* is an invented word, as are *television*, *radio*, *Ping-pong*, *linotype*, and *phonograph*. Other words have been made from the names of inventors. Electric current is measured in *watts*, a unit of electrical power taken from the name of James Watt, a Scottish inventor. The word *pasteurize* is derived from the name of Louis Pasteur.

Still other thousands of words in the English language are place names. *Chinaware* is a kind of pottery imported from China. The word *fez*, a brimless felt hat, comes from the name of the city of *Fez* in Northern Africa. *Calico*, a kind of cloth, is a shortening of the word *Calicut*, a city in India from which the cloth was first imported.

Some new words enter the English language as slang. A new way of expressing an idea is found. Finally, because the word is used by so many speakers and writers, it is placed in the dictionary. When that happens, another word has been added to the language. Some slang words that are now a part of the language are *rube*, *pep*, *whoopee*, and *scram*.

The dictionary explains from which language the words in the English language come. Some examples are:

stone (stōne), n. [<A. S. stan]. The sign < means derived from. The word *stone* is derived from the Anglo-Saxon word *stan*.

straight (strāt), adj. [<M. E. stregt]. This means that the word *straight* is derived from the Middle English word *stregt*.

stolid (stōl'id), adj. [<Lat. stolidus, dull]. *Stolid* is derived from Latin.

A few words borrowed from other languages are:

<i>canoe, potato, tomato</i>	—American Indians
<i>alcohol, algebra, sheik</i>	—Arabic
<i>bald, shamrock, pool</i>	—Celtic
<i>tea, chinaware, kowtow</i>	—Chinese
<i>easel, landscape, yacht</i>	—Dutch
<i>bouquet, chaperon, rouge</i>	—French
<i>delicatessen, nickel, kindergarten</i>	—German
<i>pathos, democracy, alphabet</i>	—Greek
<i>Sabbath, Satan, kosher</i>	—Hebrew
<i>bungalow, calico, gingham</i>	—Indians (East)
<i>alto, opera, piano</i>	—Italian
<i>doctor, honor, inferior</i>	—Latin

<i>chess, paradise, shawl</i>	—Persian
<i>cocoa, marmalade, molasses</i>	—Portuguese
<i>barbecue, cigar, mosquito</i>	—Spanish
<i>coffee, kismet, jackal</i>	—Turkish

Some of the abbreviations used in dictionaries to indicate the language from which a word is borrowed are:

Arab.—Arabic	Fr.—French
A. S.—Anglo-Saxon	Gael.—Gaelic
Celt.—Celtic	Ger.—German
Gk.—Greek	M. E.—Middle English
Heb.—Hebrew	Mex.—Mexican
Ind.—Indian	Nor.—Norwegian
It.—Italian	Scand.—Scandinavian
Lat.—Latin	Sp.—Spanish

English is a rich language because it has borrowed the best words of other languages whenever the need for them has been felt. Words are still entering the language, partly because of the many new inventions and scientific discoveries which require new words to express the new ideas they bring with them. A person who wishes to "keep up" with the English language must learn several new words every day.

#### ACTIVITIES

1. List the following words on your paper. After each indicate the language from which it was derived. Use a dictionary.

a. date	f. libretto	k. ski
b. myth	g. hot	l. mocassin
c. lend	h. skeleton	m. see
d. thermometer	i. call	n. death
e. cambric	j. chocolate	o. skip

2. In a dictionary, find a word derived from each of the languages listed here. After each word on your paper be sure you indicate the language.

a. French	f. Latin
b. Middle English	g. Anglo-Saxon
c. Spanish	h. Greek
d. German	i. Indian
e. Italian	j. Scandinavian
3. Make a diagram showing the sources of the English language as described in this article. You may refer to the article.
4. About how many words are now in the English language?
5. In what way, or ways, did you read this article?  
Was it an effective way?

*Check your answers to 1 and 4 with those on page 555*

## Your Reading Vocabulary

Read to find out about the number and kinds of words you need to know.

Words are used in four different ways. They are spoken, heard, written, and read. Every person, therefore, has four vocabularies. The largest of these four vocabularies should be his reading vocabulary, with his hearing vocabulary next in size. His writing vocabulary is probably the smallest.

An important difficulty which one encounters in reading various kinds of materials is in the vocabulary peculiar to those materials. In articles and books on science, for example, are found many technical words which are met only in reading materials on that subject. In history, mathematics, art, and music there are other words used only in connection with each of these subjects. Unless one's reading vocabulary includes many of the technical words used in social studies, he is sure to have difficulty in securing the thought from history and civics texts and from articles dealing with current history. One cannot read easily in any subject unless his reading vocabulary includes a good share of the technical vocabulary of that subject.

It is interesting to know how large a reading vocabulary a pupil should have in order to do the different kinds of reading required of him in school. Studies have been made which indicate that a pupil needs a vocabulary of 10,000 words in order to read the ninth grade textbooks used in history, science, English, mathematics,

and other ninth grade subjects. This means that a pupil must learn to read at least 1,200 new words during each year before he enters high school.

A pupil who expects to go to college should acquire a reading vocabulary of 20,000 or more words. A vocabulary of that size is needed in order to read and to get the thought from material for the reading to be done in college.

At least one-fourth of the boys and girls who enter the ninth grade do not have a reading vocabulary of 10,000 words. For these pupils, reading is difficult. It is hard for them to understand the thought in what they read. For those boys and girls who have a reading vocabulary of 10,000 words, there are still many words whose meanings they do not know. It is very important, therefore, that all pupils continue to enlarge their reading vocabularies. Unless they learn hundreds of new words each year, their school reading will become increasingly difficult.

Pupils reading this book can check themselves to learn whether they know the meaning of the words in the technical lists of 100 words each for science, literature, history, and mathematics given on pages 82-86. Some of these words may appear in more than one list. The number of words from each list which one needs to know in order to read in that subject on different levels is:

25 words—to do beginning seventh grade work.

50 words—to do eighth grade work.

75 or more words—to do tenth grade work.

Put the four subject headings on your paper. Go through each list of words to find those whose meanings you know. Under each subject heading on your paper

put a check mark for each known word. Add the number of checks in each column to determine your vocabulary reading level.

## SCIENCE WORDS

mold	conduct	diameter	relaxation
acid	battery	exposure	scientific
watt	suction	flexible	suspension
diet	symptom	friction	transparent
gram	migrate	generate	atmosphere
optic	microbe	humidity	combustion
serum	minimum	intensity	contagious
value	reaction	lubricate	dissection
fluid	narcotic	pollution	distribute
metric	magnetic	sterilize	experiment
reflex	irrigate	secretion	extinguish
latent	internal	telescope	filtration
theory	sanitary	vibration	horizontal
vacuum	saturate	barometer	observation
absorb	stimulus	apparatus	respiration
adhere	auditory	corpuscle	vaccination
artery	vitality	disinfect	ventilation
cavity	buoyancy	elevation	contaminate
energy	chemical	evolution	electricity
expand	cohesion	explosion	environment
fragile	excavate	illuminate	evaporation
gravity	eruption	inoculate	fluctuation
hygiene	diagnose	insoluble	transmission
density	bacteria	microscope	circulation
eclipse	conserve	heredity	disintegrate



## LITERATURE WORDS

essay	allusion	caricature
irony	atrocitv	versatile
motive	chivalrv	fastidious
opera	coherent	idealistic
prose	creative	manuscript
vague	dialogue	masquerade
vogue	disciple	masterpiece
weird	fascinate	melancholy
abrupt	grandeur	refinement
ballad	intrigue	selections
climax	majestic	suggestive
comedy	prophecy	arraignment
critic	ridicule	catastrophe
eulogy	sinister	contributor
pathos	splendor	controversy
rhythm	suspense	declamation
satire	treatise	description
shrewd	ambiguity	environment
unique	anonymous	inspiration
brevity	biography	observation
concise	burlesque	peculiarity
culture	celebrity	personality
distort	criticism	picturesque
episode	editorial	publication
fiction	emotional	theoretical
narrate	facetious	translation
outcome	grotesque	bibliography
preface	melodious	commendation
qualify	narrative	contemporary
romance	paramount	exaggeration
synonym	permanent	autobiography

radius	per cent	denomination
rebate	quotient	installment
reduce	solution	expenditure
symbol	subtract	measurement
average	triangle	proportional
breadth	vertical	remuneration
certify	dimension	respectively
complex	endowment	appropriation
compute	enumerate	circumference
decimal	incorrect	perpendicular
	intersect	

### ACTIVITIES

1. In which list did you find the largest number of unknown words?
2. From the lists select several words you do not know or use. Look up their meanings. Use at least two of them daily until you have exhausted the list.
3. Count the number of words in each list whose meanings you knew. By referring to the bottom of page 81, determine your vocabulary reading level for each of the four subjects.

## Enlarging the Reading Vocabulary

There are many details presented in this article. Decide at what rate you should read in order to be sure you can recall several of them.

The most important aid leading to an enlargement of one's reading vocabulary is an interest in words. Words are exceedingly interesting when one considers where they come from, how they are made, how they get some of their meanings, how their meanings change, how new words are made and added to the language.

A new word has to be made when there is need for it. When *electricity* and *chemistry* were combined, a word was needed to express the relationship so *electrochemistry* came into use. When the practice of executing criminals by electricity came into use, the words *electric* and *execution* were put together to make the new word *electrocution*.

There are words whose meanings are undergoing change. *Rubber* at one time meant something or someone that *rub*s; now it means also an elastic material. You may even have heard the slang expression *rubber neck*, meaning one who stares at someone, or *Don't rubber*, referring to the act of looking where one should not look. The origin of this probably meant "do not stretch your neck."

Many words have variety of meanings. The word *game* has come to have a number of them. It may refer to a sport; it may mean animals or birds which are hunted. Often one refers to a courageous person as being *game*.

*Measure* is another word that has a number of meanings. Among them are: to find the size or amount of anything; to mark off, as in inches; sizes or amounts, as waist measure; limits or bounds; an instrument with which to measure, as a foot rule; particular movement or arrangement in music or poetry; a bar of music; a dance step or movement.

One can get as interested in word collecting as in collecting stamps, match covers, or autographs. It is advisable for the word collector to form the habit of using a good dictionary to look up words whose meanings are uncertain. Learning the synonyms of words, that is, other words having the same or similar meanings, is a practice that helps to enlarge vocabulary and is as valuable as learning different meanings of the same word.

Vocabulary is increased also by reading in different fields of interest for each field will present its own technical vocabulary. Recreational reading, too, will increase general vocabulary, for it helps to develop the skill in judging the meaning of words from their use in the sentence or paragraph.

The pronunciation and the meaning of some unfamiliar words may be secured by noting the beginnings and endings of the words (prefixes and suffixes) as well as the root parts. When a new word and meaning are encountered, the parts which make up the word should be carefully noted, and the meaning of the word should be associated with its appearance. This practice will help to fix in mind the word and its meaning.

Such words as *circumscribe* and *retroactive* can be remembered more easily if familiar parts into which the words can be divided are noted. Whenever possible, it

is advisable to get a mental picture of the meaning of the word. The following words have meanings which can be pictured as activities or processes:

vaccination	withdrawal	thrashing
fusion	inflation	erasing

A collection of new words may be kept in a word book, just as a stamp collector keeps his stamps arranged in an orderly fashion in an album. A notebook is convenient for keeping such a list.

There are a number of ways to keep such a book. The book may be divided into sections, or subjects, such as:

English	Music
Social Studies	Mathematics
Science	Home Economics
Art	Industrial Arts

The words may be listed under letters of the alphabet or arranged alphabetically by subjects. After each new word, its pronunciation should be shown, and a definition of the word should be written. Then a sentence or two should be written to show how the word is used. If there are synonyms for the word, they may be added.

Many students prefer to use 3 x 5 cards instead of a notebook, because cards are easy to handle and to classify. One new word is placed on a card together with its marking for pronunciation, its division into prefix, root, and suffix, the definition or meaning of the word, and one or more sentences illustrating its use. The subject of the reading in which the word was first encountered, as English, science, music, or mathematics, may be indicated.

It is helpful to go through the vocabulary notebook or cards once a week and review the new words which have been added. At least 100 new words should be added each month. That number may seem large, but it is really easy to learn many new words in a month. Counting the new words at the end of each month will reveal how short a time is needed to add a hundred new words to one's vocabulary.

### ACTIVITIES

1. In ten minutes write as many words as you can think of which have more than one meaning. Tell how you might use the words in various school subjects.
2. Compare your lists with those of other members of your class.
3. If there is time, make a composite list for the class.

## Word Study

Read carefully; reread parts as needed.

The article on "Your Reading Vocabulary" pointed out that a person's largest vocabularies are those he reads and hears. Even skillful readers are constantly finding words which are unfamiliar.

If the meaning of a word is known, that same word is likely to be recognized and understood when it is met in reading content provided it can be pronounced. The italicized words in the two sentences given here are words which you would find easy even if you had never read them before. You have heard the words when they were used in like or in similar situations.

The oath of office was *administered* by the Chief Justice of the Supreme Court.

He was called upon to speak *extemporaneously*.

The pronunciation of many words can be ascertained by sounding the parts of the word and putting the sounds together. The following words might be pronounced by sounding the syllables and then putting the sounds together:

indescribable

in-de-scrib-a-ble

recognizing

rec-og-niz-ing

Pronunciation may be secured by looking at the beginning and ending of a word and then sounding the prefix, root, and suffix, as:

indescribable

in-describ-able

The word *difference* might be pronounced by dividing it into syllables or by recognizing the word *differ* and adding the ending *ence*.

difference      dif-fer-ence      differ-ence

Such words as the following are easily pronounced because a familiar part is seen:

skillful      preface      separate      surrounding  
information      department      informal      unwillingness

Compound words are easily pronounced when the two words which are joined together are recognized, as:

news papers      text books      thread bare  
head lines      mean while      stead fast

There are many words that look very much alike but which have different meanings. If one is not skillful in accurately recognizing words, he will confuse some with others and frequently will fail to get the thought in what he reads.

Word recognition confusions are of various types. First, there are confusions caused by seeing a word backward. Some readers have trouble with these words:

dog      god      on      no  
saw      was      now      won  
raw      war      bur      rub

There are words which have the same letters as other words but with the order of two of the letters reversed, as:

from      form      dairy      diary

Still other words have the same letters but have three letter changes, as:

shear      share      name      mane



Other words are confused because they contain the same letters, as:

least steal meat team

Many words have been mispronounced because the reader recognized their likenesses but not their differences. In this group may be found:

accept except whether weather  
deceased diseased country county

Knowledge of the meanings of prefixes, suffixes, and roots will help one to get and to remember the meanings of many new words. The meanings of such words as the following can be worked out:

*transportation*-act of carrying across

*trans*-across *port*-carry *ation*-act or state

*expend*-to weigh out or pay out

*ex*-out *pend*-weigh or pay

Some readers may be fairly accurate in recognizing words, while others may be careless. Some need little additional training in word study while others can profitably spend considerable time improving their word study skills.

#### ACTIVITIES

1. Tell in what ways the reader can attempt to get the pronunciation of an unrecognized word.
2. Explain why words are often confused with other words and recognized incorrectly. Give illustrations.
3. Discuss the method used in reading this article. Tell why you used that way of reading.
4. What reading in your school studies needs to be done in the same way you read this article? Why?

## Tests of Word Study Ability

Eight word study tests are provided here by which you may find out some interesting facts about your own vocabulary.

### I

Divide into syllables the words in the following list. Write each word on your paper and show the syllable divisions as they are shown in the example. Then check your syllable divisions with those given in a dictionary or in the glossary in the back of this book. Example: ex/tend/ing

convert	concluded	particular	interesting
provided	establish	conspiracy	definitions
effective	clamoring	reputation	independent
encounter	ancestors	ambassador	inhabitants
ambitious	corpuscles	adventurous	triumphantly

### II

Find the familiar words in each of the following. Write the complete word on your paper and underline the familiar part as shown here. Examples: *addition*, *composition*

current	candidate	recovering	arrangement
measure	movements	statements	information
habitual	paragraph	encounters	unimportant
actually	mimeograph	attendance	inhabitants
entirely	passengers	vocabulary	discoveries

## III

From the list below select the pairs of words which have similar parts. Put the pairs together on your paper.

Example: *fight, fright*

attack	graft	latter	attach
might	proved	night	provide
graph	though	letter	thorough
trip	energetic	value	rang
valor	sang	drip	enervating

## IV

On your paper put together the pairs of words which have the same prefixes. Example: *profession, protect*

impel	discover	determine	importance
regret	perforate	different	discourage
attack	microphone	untouched	microscope
degree	examples	establish	retouching
prepare	interests	perennial	transported
attempt	uncertain	especially	interfering
protect	conquered	profession	difficulties
preserve	explorers	constantly	transportation

## V

On your paper put together the pairs of words which have the same suffixes. Example: *careful, harmful*

ability	harmful	scarcity	distribute
finally	valuable	inventive	sanitation
careful	clothing	important	corrective
usually	greatest	brightest	contribute
distant	probable	including	cleanliness
serious	sickness	mysterious	fermentation

## VI

On your paper write the pairs of words which are somewhat similar in appearance. Draw a line through the part of each word which is different from that in the other word in the pair. Example: ~~than~~ then

nice	quite	attack	whether
niece	quiet	attach	country
dairy	county	scarce	farther
scare	custom	weather	further
diary	though	thought	costume

## VII

In securing the pronunciation of new or unrecognized words, the skillful reader attacks the problem in a number of ways. First he may look at the word to see whether there are familiar parts. If there are, he tries the pronunciation of the other parts. If the word does not lend itself to this attack, he may try dividing it into syllables, or if there is a prefix or suffix which he recognizes, he may try sounding it. Copy the words listed below and mark them to show method of attack as given in the example.

Example:

familiar parts	information
syllabification	pro/vid/ing
prefixes and suffixes	ex/amin/ation

cargo	accurate	paragraph	transparent
absorb	material	evolution	contributor
county	indicate	horizontal	immortalize
permits	indented	convenient	entanglement

reserve	notation	statements	respectively
portion	relative	microscope	abbreviation
arrange	blockade	ambassador	circumference
symbols	altitude	percentage	autobiography
neutral	socialism	parenthesis	interpretation
density	analyzing	description	understandable

## VIII

From the prefixes, suffixes, and roots on pages 97 to 99, work out the meanings of the ten words listed. Write the definitions. Then check the meanings you decided upon with those given in a dictionary or the glossary in the back of this book.

- |                 |                 |
|-----------------|-----------------|
| 1. subscribe    | 6. retractable  |
| 2. attractive   | 7. benefactor   |
| 3. telegraph    | 8. dictaphone   |
| 4. circumscribe | 9. intermittent |
| 5. contradict   | 10. tractable   |

## PREFIXES

ab-	from	contra-	against
ante-	before	de-	from, away, down
anti-	against		
arch-	chief, principal	dis-	away, apart
at-	to	en-	into, in
auto-	self	ex-	from, out of
bene-	well	fore-	before, in front of
bi-	two, twice		
circum-	around, about	in-	not
com-	with, together	inter-	among, between
con-	with, together	intro-	within

mis-	wrong, ill	retro-	backward
mono-	one, single	semi-	half, partly
non-	not	sub-	under, beneath,
ob-	against, in front		below
	of	super-	above, over, on
over-	above, beyond	syn-	with
per-	through, by	tele-	afar
post-	after, back,	trans-	across, over,
	behind		beyond
pre-	before	tri-	three, thrice
pro-	instead of,	un-	not, to free from
	forward	uni-	one
re-	back, again		

## SUFFIXES

-able, -ible	capable of being
-age	act or condition
-ance	act, process or fact of
-ee	one who is
-ent	act or process of doing, one who does
-er	one who has to do with
-ery	place where
-ess	female
-fold	times
-ful	full of
-fy, -ify	to make
-gram	drawing, writing
-graph	writing, writer
-hood.	state or condition of being
-ic, -ical	of, pertaining to
-ise, -ize	to make
-ish	belonging to, like

-ism	act of
-ive	relating to
-kin	little
-less	without, free from
-let	little
-ly	like in appearance
-ment	act, state of being
-ness	state or quality of being
-or, -er	one who
-ous	full of, having, like
-scope	instrument for viewing
-ship	condition or quality of
-some	like or same
-ure	act, state
-ward	turning to

### Roots

auto	self	ology	science
cap	take	phon	sound
chron	time	photo	light
dic, dict	say	port	carry
fac	make	scrib	write
fer	bear	spec	sight
graph	write	tele	far off
magn	great	tract	draw
meter	measure	ven	come
mitt (miss)	send	vid (vis)	see

### SUMMARY ACTIVITIES

1. By combining prefixes, roots, and suffixes from the lists on pages 97 to 99, make ten words. Write a definition for each.

2. List five words in the English language, other than those mentioned in this book, that have come from Latin words. Do the same with words derived from French; from Anglo-Saxon; from any other language.
3. List five words you have added to your speaking vocabulary during the past month.
4. Write a statement telling which method of reading you used for the Word Study Tests.
5. In a dictionary find from which language these words have come to us:

<i>muscat</i>	—a kind of grape
<i>muscle</i>	—an organ in the body to produce motion
<i>music</i>	—pleasing combination of tones
<i>mute</i>	—uttering no sound
<i>thrill</i>	—affect emotionally
<i>U-boat</i>	—a submarine

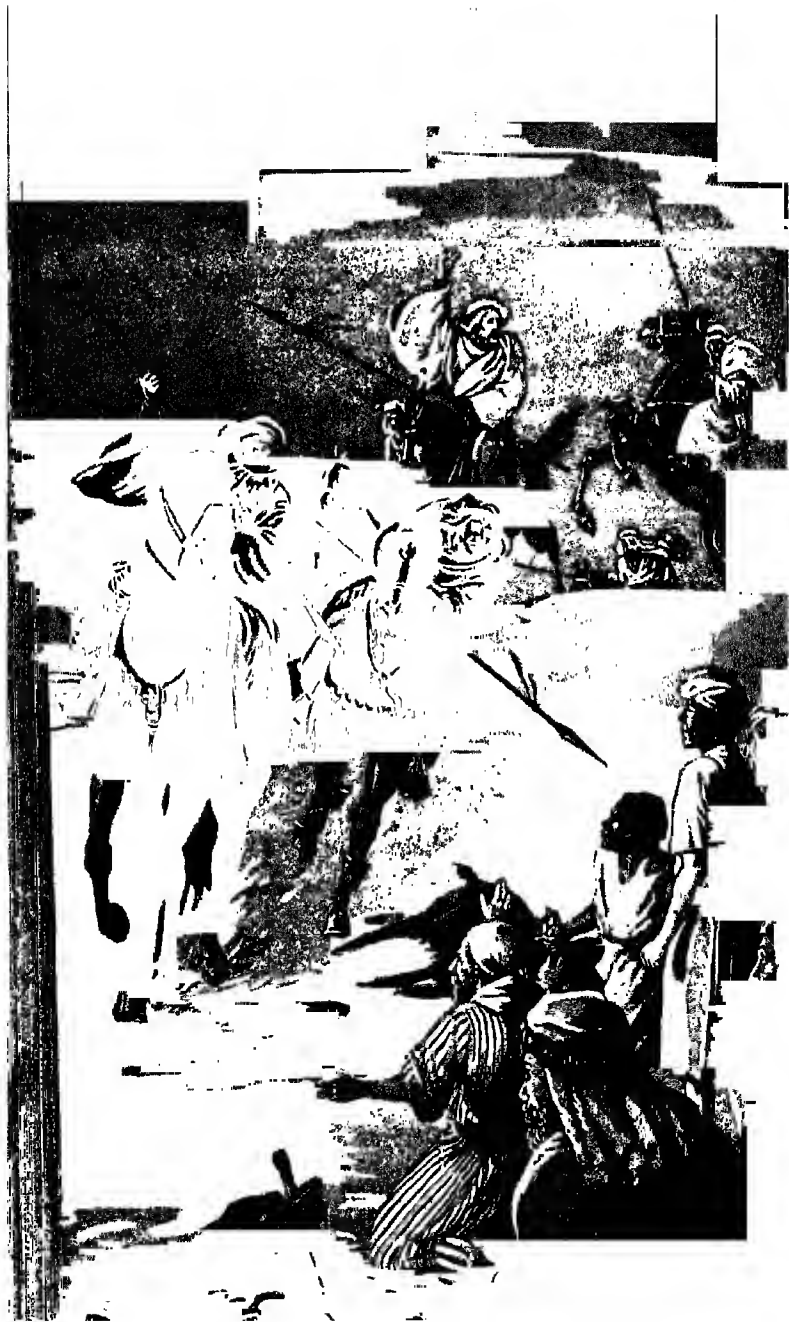


## SECTION III

### Applying Reading Skills in the Study of History and Science

*The articles in this section of the book are on history and science topics. As you read these articles, you can expect to encounter words peculiar to the subjects. Try to get their meaning from the way they are used. Try, also, to add these words to your vocabulary.*

*Adjust your way or ways of reading to the difficulty of the material and the purpose for which you are asked to read.*



## Rights That Have Been Won by Newspapers

There are two sections in this article, "Early Newspapers in America" and "Peter Zenger's Trial." Select the most important idea in each section and be able to give it in a few words.

### EARLY NEWSPAPERS IN AMERICA

Before the dawn of the French Revolution, Louis XIV of France truthfully said, "I am the government. I am the nation." He had the power to do anything he wished. He was what is called an absolute monarch. In the time of Louis XIV what the people thought meant nothing; what Louis XIV thought meant everything.

In a democracy what the masses of people think is supposed to govern the nation. Of course, the governing is actually done by representatives of the people rather than by the people themselves. Not every citizen can sit in Congress making the laws, but he and many other persons in the locality send to Congress a person to work for them. The beliefs that the majority of citizens possess are called public opinion. A democracy is ruled to a great extent by public opinion.

Newspapers help to form public opinion. Newspaper editors, through their columns, can disagree with the President of the United States. They can criticize Congress and the Supreme Court. They can point out the mistakes of governors and city officials. They can criticize the Army and the Navy and even disagree or agree openly with policies of foreign countries.

The press of the United States is said to be free, that

is, not controlled by the Government. Each editor of a newspaper has the right to express his opinion, even though his opinion is not like that of the party in power.

Editors of newspapers, however, have not always had this right. At one time in England every newspaper had to be licensed by the Government. A newspaper that criticized the Government did not long keep its license.

The early New England Puritans, having had experience with the English system of licensing newspapers, established the same system in America. They closed the first newspaper in America. Its editor, an Englishman by the name of Benjamin Harris, had printed an article about one of the battles of the French and Indian War. In this article he had told how the Indians who were helping the colonial troops had cruelly mistreated French prisoners. Because the article criticized the Government for not controlling its Indian allies, the newspaper was not permitted to have a license. Benjamin Harris returned to England.

In Philadelphia, the best printer was a man named Bradford. Bradford's father had come to Pennsylvania with William Penn because a printer was needed in the new colony. Penn promised that Bradford would have great freedom.

The governors whom Penn left in Pennsylvania soon had numerous quarrels with Bradford. One quarrel was about a fair which the officials had decided to hold in a district away from the center of town. The ladies of Philadelphia asked Bradford to criticize this action, and he did. The governor sent for Bradford and warned him about writing articles criticizing the actions of the officials of the fair.

Two years later the governor and certain leaders of the people were arguing about what rights the people had according to the charter, or constitution, left them by William Penn. Bradford printed the entire charter in his newspaper so the people could learn just what rights they did have. The governor again sent for Bradford. Bradford refused to admit he had done wrong in publishing the charter.

By that time Bradford was tired of struggling with the governors of Pennsylvania, so he moved his press to New York. In that colony the press enjoyed great freedom, due no doubt to the fact that there were two political parties of almost equal strength. New York newspapers, however, were still to struggle for their rights.

#### PETER ZENGER'S TRIAL

The trial of Peter Zenger in New York in 1734 marked the first great step toward securing freedom of the press. The trial, which was brought about by the simple question of the governor's salary, was one of the most important trials in American history.

Peter Zenger arrived in America from Germany in 1710. With Peter were his mother, sister, and younger brother, his father having died on board ship. For eight years Peter worked as an apprentice in the New York shop of William Bradford. He then set up his own printing house in Maryland, but failed. In 1726, he returned to New York and started in business for himself. His shop was small and he printed only a few books. His claim to fame rests on having printed the first arithmetic book published in the colonies.

Just about the time Zenger was opening his new

shop, the officials of New York were in the midst of a bitter fight. Governor Montgomery had died in June, 1731. Until the new appointee, Governor Cosby, arrived in September of the following year, the senior member of the Council, Rip Van Dam, acted as temporary governor. Van Dam thought that because he had performed the work of the Governor's office from June, 1731 (to September, 1732) he should receive the governor's salary which amounted to 6,000 pounds, or about \$30,000. Despite the fact that the newly appointed governor had done none of the work, Cosby demanded that the salary be paid to him.

The two men asked the court to decide who should receive the salary. Governor Cosby set about insuring a verdict favorable to himself. Just before the trial he removed the Chief Justice from office and appointed one of his own friends to the bench.

The angry Van Dam decided to tell the people exactly what had happened. He asked Peter Zenger to print a newspaper for him. Zenger agreed to do it. The name of the newspaper was the *New York Weekly Journal*.

Several issues of the newspaper were published. In three issues letters written by a nameless person gave especially bitter descriptions of the new Governor's actions. Because these issues attacked the way in which he was running the Government, Cosby ordered that all copies be collected and burned. He offered a reward of \$250 for the discovery of the writer of the letter. A few days later Zenger was arrested on a charge of libel.

To libel a person means to write untrue and imperious statements against him. Every newspaper editor must know what constitutes libel.



When Zenger was arrested, the Chief Justice fixed his bail at \$4,000. Since Zenger could not pay that sum, he was thrown into jail. For nine months he stayed there waiting for his trial. During that time he managed to send out enough articles to keep his newspaper running. He missed only one issue, and that was because he could not secure ink and paper.

In August, 1735 the great trial began. William Smith and James Alexander, Zenger's lawyers, stated that Chief Justice De Lancey could not possibly be fair because he owed his position to his friendship with the governor. Chief Justice De Lancey angrily declared that the two lawyers were in "contempt of court" because they had insulted a judge. He ordered that they never again be permitted to practice law in New York.

It looked as if Governor Cosby and his friends were going to crush Peter Zenger and his supporters with ease. Zenger had no other lawyers to defend him. Then into the courtroom walked the most famous lawyer in America, Andrew Hamilton. Who had sent him, no one ever knew. It may be that he came of his own accord

to help the poor printer. At any rate, Hamilton never sent a bill to Zenger for the service he performed.

Governor Cosby and Chief Justice De Lancey were both amazed and frightened. They knew Hamilton's record. He was too famous a lawyer to be treated as they had treated Smith and Alexander.

Hamilton was a mysterious figure, even to his friends. No one knew his right name. They called him Andrew Hamilton because he asked them to do so. He had come from some part of Europe, no one knew exactly where. Without a doubt he belonged to a noble family. Rumor said that in a duel he had killed an important man in Europe and had been forced to flee to America. At the time of the trial he was about eighty years of age, famous throughout Europe and America, and a firm friend of Benjamin Franklin.

The trial began. Hamilton offered to prove that the statements printed in Zenger's paper were true. "If they are true," he declared, "Zenger had the right to print them."

Chief Justice De Lancey refused to permit Hamilton to prove the statements. The truth of the statements, he claimed, did not matter at all. According to English law, De Lancey was correct in his stand. New York was an English Colony, still governed by English law. The law read:

"Government cannot exist if persons have the right to give other people a poor opinion of the Government or its officials. Persons who furnish other people with opinions against the Government may be punished."

Hamilton realized that he could never prove Zenger innocent under this law, so he tried to prove that the law



was wrong. He tried to persuade the jury and the audience that the law was an enemy to the cause of liberty.

He realized that he was fighting for something much larger than the release of a poor printer from prison. In his speech he said:

"Because this is the law in England, must we accept it as the best kind of law for America?"

"The question before the court, and you, Gentlemen of the Jury, is not of small or private importance. It is not the cause of a poor printer, nor of New York alone, which you are trying. No! It may, in its results, affect every free man that lives under a British Government on the mainland of America."

The famous lawyer argued that the power of officials should not be protected. He said that many rascals and dishonest men had secured and would secure governing power. He added that the only protection the masses of people had against dishonest officials was the right to speak and write against their actions.

After Hamilton had finished his speech, it did not take the jury of citizens long to reach a verdict.

"Not guilty," they declared, and Peter Zenger was freed.

Andrew Hamilton became a national hero. All the newspapers in the colonies praised him, for they realized that at one stroke he had won for America a greater freedom than had ever before existed anywhere else in the world.

The effects of the Zenger trial on the future life of America were:

First, it made possible the Revolutionary War. Without newspapers carrying articles about the actions of

the British Government, and without editorials urging the colonies to resist the acts of the British King, the war would never have occurred.

Second, it forced the makers of the Constitution to include in the first amendment a statement guaranteeing freedom of speech and freedom of the press.

Today the citizens of America treasure the privilege of speaking and writing their opinions without fear of punishment by the Government. A nation, they believe, to be truly free must give to every citizen the right to criticize in speech and in writing the representatives to whom he has entrusted the task of running the Government. It was the courage of Peter Zenger and the wisdom of Andrew Hamilton that won for the future America the twin rights of freedom of speech and freedom of the press that America now cherishes as the foundation of its liberty.

#### ACTIVITIES

1. Write on your paper, in not more than twenty-five words each, the most important thought given in each of the two articles, "Early Newspapers in America" and "Peter Zenger's Trial."
2. Go back to the articles and skim them to find any words, the meanings of which you did not know. List them on your paper; then look up their meanings in a dictionary.
3. Tell why rapid reading, with rereading of parts and a mental summary of each article, is an effective way to read this kind of lesson.
4. Tell what reading you do outside of this book which is similar to this article in character and which you read for much the same purpose.

5. Explain the method you use for reading your history lesson when you have in mind the selection of the main ideas in it.
6. In each of these phrases from the articles one word is underlined. Use it to show that you know another meaning for the word.
  - a. the power to do it
  - b. ruled by public opinion
  - c. newspaper columns
  - d. point out mistakes
7. Write these words in syllables and show accents:

absolute

government

representatives

democracy

possess

constitution

apprentice

appointee

imperious

mysterious

criticize

licensed

colonial

numerous

arguing

political

official

temporary

libel

innocent

## Newspapers and the Revolutionary War

Read to find the answers to two questions: (a) What part did the newspapers play in bringing on the Revolutionary War? (b) What part did they play in bringing victory to the colonies?

In the years that followed Zenger's trial the newspapers of America became powerful molders of public opinion. They became a real influence in guiding the life and government of the country.

History shows that at various times three groups of men have been powerful in guiding government. Each of these groups was called an "estate." The First Estate was the group of churchmen who probably reached the peak of their political power in the Middle Ages. The Second Estate included kings and nobles, who, of course, had always enjoyed a great deal of power. The Third Estate was the people, who at various times rose in great groups and demanded that they be accorded their rights.

Then, almost overnight, another great political force came into being. This new group, composed of the editors of newspapers, was called the Fourth Estate.

It was with difficulty that thirteen colonies, scattered over a large territory and separated by almost impassable roads, were aroused to desire independence. Newspapers, bringing to them the news of British taxes and laws, slowly led the people to believe that only by united action could they secure relief from oppression.

There was one man in Boston who saw the power that newspapers possessed. That man was Samuel Adams,

known as the "Father of the Revolution." Samuel Adams, together with a group of friends who belonged to a club formed by him, began a newspaper. Each member agreed to supply articles to the paper, which was called the *Boston Gazette*. Benjamin Edes and John Gill were hired to print the paper.

Next to Benjamin Franklin, Samuel Adams was probably the greatest of America's early newspapermen. Few people think of Adams as a journalist, however, for he usually stayed behind the scenes. He wrote hundreds of articles but never under his own name. His greatest skill lay in getting others to write for his paper.

While Samuel Adams was still a young man at Harvard, he was writing compositions on Liberty. From early life he devoted all his spare time to the task of stirring the colonies to seek independence.

During the years Samuel Adams was working on the idea of independence, he gathered around him a splendid group of writers. Among them were John Adams, later to become President, James Otis, Joseph Warren, and Josiah Quincy.

Under twenty-five different names Samuel Adams wrote articles and letters. They were reprinted in practically all the newspapers of the country. It was his newspaper that first published the idea that the colonies should become one independent republic.

In the back room of the *Gazette* office Samuel Adams and his friends planned the "Boston Tea Party." In the same office Otis prepared the speech against the Writs of Assistance, those search warrants which permitted British officers to search homes for smuggled tea on which taxes had not been paid.

Year after year Samuel Adams, by means of his newspaper, sent stirring articles through the colonies. He sent copies of his newspaper to the Committees of Correspondence located in over eighty towns throughout the colonies. He spread opposition to the Quartering Act, which made the families of Boston support English soldiers in their homes. He printed articles against the Stamp Act.

It was Samuel Adams, more than any other American whom the English feared. When the British troops marched to Lexington and Concord, they had two aims in view, one of which was to capture Samuel Adams, who was visiting at Lexington. Fortunately Samuel Adams had been warned of the coming of the troops and managed to escape.

The Revolutionary War began on April 19, 1775, and a little more than a year later the colonies declared themselves a united and independent nation. Samuel Adams, Peter Zenger, and Andrew Hamilton had all helped the cause of liberty.

#### ACTIVITIES

1. Write the answers to the two questions on page 112.
2. What method of reading did you use to get your answers?
3. Write a sentence or two to explain the meaning of the sentence: *He belongs to the Fourth Estate*. In what paragraph did you get information needed for your answer?
4. What methods did you use in preparing your most recent lesson in history (or a lesson in some other content subject)?



## Newspapers During the Revolutionary War

For the eight years following the battles of Lexington and Concord America was a battlefield. Only a small portion of the country's population of 3,000,000 persons was greatly interested in the struggle. During 1777 Washington's army was never greater than 11,000 men. In 1781, after the aid of France had been secured, the army grew to 30,000.

At the beginning of the war more than half of the population were Tories. Tories were people who sided with the King of England. The Whigs were the ones who carried on the fight.

New York contained the greatest number of Tories. In South Carolina, Georgia, and Pennsylvania there were an equal number of Tories and Whigs. Virginia and New England were the two sections that really kept the war going.

It was, to a large measure, the newspapers that had persuaded the people of the colonies to oppose the King. When independence has been declared, however, the work of the newspapers was not yet over. Still facing them was the task of keeping up the spirits of the patriots, of securing the help of more citizens, and of fighting the false stories circulated by Tories to weaken the Revolutionists' cause.

In 1775 there were thirty-four newspapers in the colonies. Of those, twenty-two were Whig papers that supported Washington's army. They supported the army so well that by the end of the war the greater part of the Tories in the colonies had become Whigs.

General Gage, of the British forces, saw the great power of the newspapers in the colonies. Whenever he captured a town, he immediately destroyed the printing presses he found there. When General Howe captured a town, he did a much wiser thing. Instead of ruining the presses, he hired a capable printer to continue to publish the newspaper, in which were the stories furnished by the British. In fact, he asked his Government to establish Tory newspapers in all the colonies. He declared that the money spent for presses and for printers' salaries would do more to discourage the patriots than would a supply of ammunition bought with the same amount of money. His idea may have been the forerunner of present-day propaganda.

From every Tory newspaper came stories that discouraged many patriots who happened to read them. The stories told that the people of Boston were starving and were ready to surrender; that the English warships had cut off all imports from other countries; that half



of Washington's army had died of fever; that the friends of the King were preparing to overthrow the Whigs in Maryland; that riots were occurring in all of the principal cities; and that most of the Whig leaders were simply waiting for a chance to surrender to King George's men.

This was the type of material that the Whig newspapers had to combat. Over and over again they denied the untruthful statements in the Tory papers. In addition they had to give the Whigs courage by finding and printing the most cheering facts about the progress of the war.

The Revolution was the first war in which writing played a great part. Washington, in his wisdom, did something that no general had ever done before. He had a writing assistant with him on his campaigns. It was the duty of this assistant to write and distribute encouraging articles to the soldiers and to the public. To-day such a person would be called a press agent.

Washington could not have made a better selection for his writing assistant. He chose Thomas Paine, a former European corset maker, who had been sent to America in 1774 by Benjamin Franklin. Franklin had noticed what a fine writer Paine was and had given him letters of introduction to prominent people in America. It often has been said that Paine's writings, especially *The Crisis* and *Common Sense*, did more damage to the British than any battle fought by Washington's army.

Peter Zenger won the first great battle in America for the freedom of the press. Other great newspapermen, such as Samuel Adams, continued to keep the

newspaper free from the influences that would have established strict governmental control over the press. It was largely due to Adams and his friends, and to such writers as Thomas Paine, that the colonial newspapers were able to criticize the British Government, and when criticism failed, to organize colonial resistance to the King's actions. The newspapers helped greatly to make this nation free, and ever since then the citizens of the nation have insisted that the editors remain free to print and circulate their opinions in the columns of their newspapers.

#### ACTIVITIES

1. Mentally review this article. Reread any parts which you do not remember clearly.
2. Write the answers to these questions:
  - a. Who, more than any other man, put the idea of independence into the minds of the people of the American colonies?
  - b. Did Whigs or Tories favor independence?
  - c. In what way did the newspapers which favored independence bring about victory for their cause?
  - d. Who was Washington's writing assistant? What would his type of work be called today?
3. Discuss the way you read this article. Tell what way the reading of it differed from the way the preceding article was read.

*Check your answers to 2 with those on page 555*

## The California Gold Rush

Gold! Gold! Gold! When that cry spread throughout the nation, people dropped their pens and plows and rushed madly into what too often proved to be their death. Fear of the Indians that rode the plains was forgotten. Seasickness and the dangers of the ocean did not stop the men and women whose minds held nothing but the thought of wealth.

As you read, find the answers to the following questions: (a) What was California like before the Gold Rush? (b) What were the conditions in California during the Gold Rush? (c) What good and what evil grew out of the Gold Rush?

It was gold that, like a magnet, drew the Spaniards to the western hemisphere. It was Spain's success in finding vast quantities of gold in South America that led other countries to send colonists to the new world.

Disappointment awaited the colonists. Search as they might, the English and French who settled in North America could find but little of the yellow ore. Wisely they discarded hopes of sudden wealth and devoted their time to the growing of agricultural products and to the trapping of animals. The fields and forests proved to be the real treasures of America. Cotton, tobacco, vegetables, and furs produced more gold than the fabulous mines of Peru.

While the English and French tended their fields and trap lines with contentment, the Spaniards continued their search for gold. Through the trackless wastes of Mexico they plodded. Then, lured on by the stories of

Indians, they sailed up the western coast of Lower California. Nowhere did they find tribes of Indians living "in golden homes and eating from golden dishes."

The King of Spain needed a port on the western coast of America, at which his ships might stop for fresh water and food. San Francisco seemed ideal for the purpose. The Spanish King determined to claim the country, especially since he was afraid that if he did not, the Russians would. Indeed, Russia already had several colonies on the coast just north of California.

The King sent colonists to build homes and missionaries to convert the friendly Indians. For three quarters of a century the flag of Spain waved over the land, while Spanish treasure seekers sought elsewhere for the gold that seemed always just beyond their reach.

In 1849 a new race of gold seekers madly threw aside their businesses, or sold their farms, and hastened full speed ahead to the greatest gold field the world had ever known. Strangely enough, the gold lay in California, the land of the Spaniards. It had always been there. While the Spaniards had been searching far afield for the precious metal, the land of California had kept its secret hidden from their eyes.

As the years had passed, political changes had occurred. Spain's control of California had passed to Mexico. Later the United States and Mexico had fought a war, and at its conclusion the United States had seized California. The treaty signed at the end of the war with Mexico in 1848 provided for the keeping of California by the United States and a payment to Mexico for it. The discovery of gold in California occurred nine days before this treaty was signed, but as news in those

days traveled slowly, neither of the governments knew of this fact at the time of the signing of their pact.

The gold rush was one of the most amazing movements. By 1850 over 200,000 persons had moved to the gold fields. Very few of the newcomers were miners. Most of them were farmers, merchants, lawyers, doctors, school teachers, ministers, bankers, soldiers, gamblers, and ne'er-do-wells. Some came by boat and some overland, but all were singing "the days of old and the days of gold, the days of Forty-nine."

This greatest of all gold rushes began when James Marshall, a carpenter working for Captain Sutter, saw yellow flakes of metal in the mill race of a sawmill.

Captain Sutter had come from Switzerland. About the time of his arrival, the United States had asked its citizens to flock to Oregon, to establish a claim to the land for the United States. Sutter had gone west, but instead of going to Oregon, he had gone into California. When he asked the Mexican governor of California for land upon which to settle, he was given twenty-seven square miles in the Sacramento Valley. There Sutter built a fort. He gathered around him a group of Indians, raised his own grain and meat, ground his flour, and ruled as a lord.

James Marshall, the thirty-three year old carpenter, was from New Jersey. Captain Sutter employed him to build a new sawmill. Sutter sent Marshall out to find a site that would be near a forest and near a stream that could supply water power for the mill. Marshall found an ideal spot forty miles from the fort. Within a few months the mill was completed, and the water was permitted to run through the raceway.

The afternoon after the water had been released Marshall's eyes caught a glitter of yellow in a pile of dirt that had been thrown aside to make a channel for the water. With a tin pan he washed a few pounds of the dirt. At the bottom of the pan enough yellow substance remained to cover a twenty-five cent piece. James bit the metal and found it soft. He hammered it, and it flattened out in a thin ribbon. He washed it with the cook's lye, and it did not tarnish. Vinegar did not affect it.

These four tests were the only ones he could make at the mill. They seemed to indicate that this metal was really gold, but Marshall wanted to make sure. He decided to take a few ounces of the yellow metal to the fort, where a better test could be made.

At first Captain Sutter laughed at him. No one had ever found gold in California. He laughed no more when strong nitric acid, which was poured over the yellow substance, failed to injure it, nor when it outweighed an equal amount of silver under water. This last test was almost positive proof that James Marshall had found gold.

Captain Sutter was a cautious man. He did not want gold to be discovered, because he felt it would hurt his business to have miners stampeding over his ranch. He asked the workers at the sawmill to keep the discovery a secret.

Captain Sutter himself could not keep the secret. He sent Charles Bennett, one of his most trusted men, to the military governor stationed in conquered California by the United States Government. Bennett carried a letter and several ounces of gold with him.



On the trail, Bennett stopped in a store for supplies. The gold in his pocket had already started a fever in his mind. While in the store, he heard a bystander say, "A trace of coal has been found in the hills of California. If a large quantity is found, this will become a valuable territory for the United States."

"Coal!" sneered Bennett. "I've got something in my pocket that will make this country forget all about coal!"

Then he threw the small sack of yellow flakes on the counter and the news was out. "Gold" was spread like a forest fire urged on by a strong wind. Merchants closed their shops; workmen quit their jobs. Homes were left vacant. San Francisco became an abandoned

much. He borrowed money and began many new businesses. One by one, his numerous enterprises failed. He even had to give up the land that once was known as Sutter's Fort. He died in 1880 while trying to secure a pension from the United States Congress for his services in opening to the world the golden treasures of California.

Although the Gold Rush broke up families, brought death to thousands of travelers, and caused the abandonment of hundreds of farms and businesses, it had several far-reaching, good results. Among them were:

It made possible the admission of California as a state in 1850.

It left a permanent group of American settlers in California. Miners, tiring of the excitement and the turmoil of the "diggin's," turned to farming as a more permanent occupation. Sixty acres of farmland were cultivated in 1860 for every one that had been cultivated at the beginning of the Gold Rush.

It hastened the building of a transcontinental railroad. The settlement of California and the need for transportation furnished the necessary business for the operation of a railroad.

It made possible the early entrance of other states into the Union. Over 200,000 people had settled along the route to California. Some who had started for California had become discouraged on the way. Others stopped at choice locations on their return journey. Where people settled, they took root. Before long other states were clamoring for admission into the Union.

It was the Gold Rush that so quickly extended the settlement of the United States to the Pacific coast.



The United States no longer had to import gold. It was able to sell gold to other nations. The old cry of Gold! Gold! raised by the early Spanish settlers had been answered.

#### ACTIVITIES

1. Write the letters from a to j. After each letter place the number of the word that completes the statement.
  - a. Of the three countries that inhabited early America, the one that continually searched for gold was (1) Spain, (2) France, (3) England.
  - b. The first white inhabitants of California were (1) French, (2) English, (3) Spanish.
  - c. Just before gold was discovered in California (1) Spain, (2) France, (3) England, lost control of the territory.
  - d. The man who first found gold in California was (1) Captain Sutter, (2) Charles Bennett, (3) James Marshall.
  - e. The two men most responsible for the Gold Rush died (1) wealthy, (2) poor, (3) multi-millionaires.
  - f. Most of the persons who came to the Gold Fields were (1) women, (2) inexperienced miners, (3) experienced miners.
  - g. In California during the Gold Rush prices of food and clothing were (1) high, (2) low, (3) as usual.
  - h. The chief result of the Gold Rush was that it (1) took men away from cities, (2) showed Americans what a great country they had, (3) settled the farthest parts of the country.

- i. (1) A great amount of gold, (2) very little gold, (3) no gold was found in California.
  - j. The news of the "Gold Find" was first given to the world by (1) the bragging of a messenger, (2) the President, (3) a newspaper reporter.
2. Write the letters from *a* to *h*. After each letter write a word from the list that should be used to complete the corresponding sentence.
- |        |          |                  |
|--------|----------|------------------|
| ore    | fabulous | chest            |
| lured  | sparsely | stampeding       |
| magnet | rocketed | transcontinental |
- a. The cry of gold ..... thousands of Easterners to the Gold Fields.
  - b. Prices ..... until one could not buy a pair of boots for less than a hundred dollars.
  - c. The ..... march of the Easterners left many crudely marked graves beside the trail.
  - d. California was ..... settled before the Rush.
  - e. Like a ..... herd of cattle, people of all nations rushed to California.
  - f. Newspapers declared that ..... fortunes were being unearthed in California.
  - g. The precious ..... as it was taken out from the ground drew newcomers like a .....
  - h. California became the treasure ..... of the world.
3. Tell what way or ways you read this article. Discuss whether it was an effective method.
4. Tell what way the purpose for which you were asked to read this article influenced the method used.

*Check your answers to 1 and 2 with those on page*

## Second Test of Reading Speed

Place a sheet of paper and a pencil on your desk. Then read the directions carefully.

1. Read the story of Richard Francis Burton at the rate of speed you usually use for informational reading. Your chief purpose will be to secure the most important facts connected with Richard Francis Burton's life in as brief a time as possible.
2. At the end of the article you will be required to answer the twenty questions about the life of Richard Francis Burton.
3. As you read, your teacher will indicate on the blackboard the amount of time that has elapsed since you began to read. When you finish, glance at the blackboard and copy the *last time* recorded. That will be your *time score*.
4. As soon as you have made a note of your time, attempt to answer the twenty questions at the end of the article. Do not refer to the article even if you are unable to answer some of the questions.
5. When your teacher gives the signal, you may compare your answers with those at the back of the book on page 554. Each correct answer will count five points on your comprehension score. The best reader will be the pupil who has the lowest time score and the highest comprehension score.

*Remember, your only purpose is to learn the most important facts about Richard Francis Burton's life in as brief a time as possible.*

## The Student Who Loved Adventure

At a time when thousands of Americans were following the desert trail to California in the search for gold and adventure, British Government officials gathered excitedly around a map.

"That unexplored territory is a blot on England's honor," one official declared, pointing a long finger toward the huge portion of the map that is now Arabia. "What do we know about that large desert country? No Englishman has ever been able to enter it and return alive. So far as we know, not a white man has ever seen the sacred cities of Medina and Mecca. Until we do enter, the mystery of what lies in that territory will not be revealed."

To explore Arabia was to tempt death. The desert was difficult to cross. Murderous bands of robbers were a greater obstacle. The greatest obstacle of all was the fact that only a Moslem was permitted to enter the holy cities. A white man found in Mecca would be torn to death by the angry Moslems.

One man, Richard Burton, offered to try to solve the mysteries of Arabia. Although he was only a young man, he had spent much time studying the languages and the customs of the Eastern peoples. He had learned twenty-nine different languages and spoke each one of them like a native. Properly disguised, he believed he could pass through Arabia without trouble.

In 1853 Burton sailed to the East, disguised as a Persian prince who had been visiting in England. He had

dyed his skin, and had grown a heavy mustache. He rarely spoke to his curious fellow passengers while aboard ship.

When he reached Alexandria, Burton entered his hotel and emerged a little later, not as a prince, but as a ragged desert wanderer with a little bundle of baggage on his shoulder. Whenever he was asked his name, he would reply, "I am Abdullah. I am an Afghan."

Abdullah, with other pilgrims en route to the holy cities, sailed up the Nile to Cairo. From Cairo the passengers walked through the desert to Suez, where a boat ferried them across the Red Sea to the Arabian coast.

On this journey Abdullah said very little, but what he did say was very wise. The pilgrims grew to like him. When a large band of robbers met them on the desert trail, their liking changed to great admiration. Though death seemed quite near, Abdullah seemed scarcely to notice the bandits. Instead he clapped his hands and called loudly for his dinner. Everyone was convinced that Abdullah was a very brave man.

At last the little caravan reached the holy city of Medina. The inhabitants treated the pilgrims cordially, Abdullah made several little journeys through the city, his keen eyes noting everything. The Moslems might not have been so friendly to him if, late at night, they could have seen Abdullah filling page after page with notes and drawings. The notes were written in English and they described the customs of the Moslems. Among the notes were a map of the city and drawings of the prominent buildings. The officials of the town were described and the religious ceremonies pictured through words and drawings.

From Medina the group of pilgrims pushed on to the great and holy city of Mecca. Again bandits attacked them, and again Abdullah, careless of his danger, called for his dinner.

"In Afghanistan," he said, "we pay no attention to the animals of the desert."

Abdullah found Mecca even more interesting than Medina had been. The crowded streets and noisy markets reminded him of carnival time at home in England. Turks, Hindus, and Bedouins mingled freely in the streets. The steepled churches, which always faced the east, furnished excellent material for Abdullah's swelling book of notes and drawings.

A few months later a weary Abdullah, with flowing mustache that drooped slightly, entered a hotel in Alexandria. He was never seen again. Several months later, Richard Burton stepped out of the hotel. He was on his way to the office of the British consul to make his final report. In his hand he carried a book, heavy with many pages of interesting notes and drawings.

The exploration of Arabia was but one of a lifetime of adventures in the career of Richard Burton. There was no rest for him. A few months after his return from Arabia he was again on the march, this time to Somaliland in East Africa. The Royal Geographical Society sent him on this expedition. Disguised as an Arab merchant, Burton made his way to Harar, the great walled city, in which the slave trade and the coffee trade had their headquarters. No European had ever been permitted to enter Harar. Burton entered the city, however, and came back with another notebook filled with valuable information.

A little later Burton was off again, this time to find the answer to the question, "What are the sources of the Nile?" Mile after mile he followed the giant river. While he was exploring the vast body of water known as Lake Tanganyika, he became ill with fever. While Burton was slowly recovering his strength, his friend, John Spike, traced the source of the Nile to Lake Victoria in Central Africa.

Iceland and Western United States saw Burton in later expeditions. In fact, the man was rarely inactive. He would suddenly vanish for several years, and then reappear almost sick with weariness and suffering. To describe all that he had seen, heard, and done, Burton had to write more than eighty books.

Burton was a scholar as well as an explorer. One of his most valuable contributions was the translation into English of the book, *The Arabian Nights*.

Richard Burton was successful largely because he was a tireless student. Only a fine student could have learned twenty-nine languages. Before every expedition, he spent days studying the history and the customs of the people among whom he intended to travel. Thorough preparation was the secret of his success.

#### CHECK YOUR COMPREHENSION

A. Number your paper from one to ten. Beside each number place T if the statement is true, F if the statement is false.

1. Up to 1853 no white man had ever seen the city of Mecca and returned alive.
2. The Arabians did not permit any but Moslems to enter their holy cities.

3. Burton had no preparation for his life of exploration.
4. Burton wrote over 80 books describing his adventures.
5. Burton made no explorations in the United States.
6. On many of his expeditions Burton was forced to disguise himself.
7. Burton did not like to eat when he was in danger.
8. Burton kept in touch with civilization, while on his journeys, by means of radio.
9. The Arabians did not like Burton because he talked too much.
10. In order to enter Mecca, Burton changed his religion.

B. In each statement below are given three possible completions. Only one is correct. Number your paper from 1 to 10. Beside each number on your paper place the letter that precedes the correct completion.

1. In Arabia all the churches faced the (a) west, (b) north, (c) east.
2. While in Arabia, Burton spent his nights in his tent (a) filling notebooks with descriptions and drawings, (b) teaching his companions the Moslem religion, (c) making presents for the Eastern princes.
3. Burton was the ideal man to send to Arabia because he (a) was a Moslem, (b) knew twenty-nine languages, (c) was a Persian prince.



4. One of the books that now bears Richard Burton's name is (a) *Black Beauty*, (b) *With Livingston in Africa*, (c) *Arabian Nights*.
5. Burton would have discovered the source of the Nile River if he (a) had not become ill, (b) had known one other language, (c) had not been attacked by bandits.
6. Burton was the first white man to return alive from the city of (a) Harar in East Africa, (b) Alexandria in Egypt, (c) Constantinople in Turkey.
7. Most of Burton's success can be credited to the fact that he was (a) an artist, (b) a soldier, (c) a student.
8. Burton usually disguised himself as (a) an English prince, (b) a native, (c) a bandit.
9. Many of Burton's explorations were made for the (a) sake of writing books, (b) English Government, (c) United States Government.
10. Richard Francis Burton lived around (a) 1730, (b) 1800, (c) 1855.

Check your answers with those on page 554

#### ACTIVITIES

1. There are 1,000 words in the article on Richard Francis Burton. What was the average number of words you read per minute?
2. Compare your results on this test with those made on the first reading speed test. Have you improved in both speed and comprehension since you took that test?

3. If you are still weak in your comprehension score, the devices listed here will help you in your lessons. Practice them.
  - a. Select the principal idea of each paragraph.
  - b. Write a summary of each selection or paragraph.
  - c. Outline the paragraph or pages read.
  - d. Prepare a list of questions that the day's assignment answers.
  - e. Make sketches, diagrams, or maps whenever the paragraphs read lend themselves to such treatment.
  - f. Use a dictionary for unlocking troublesome words.
  - g. Translate sentences and paragraphs into your own words.
  - h. Write a short paragraph stating what new ideas you have learned as a result of reading the article.
4. If you are still weak in speed, the following devices will help you. Practice them.
  - a. Read very rapidly, for a few minutes at a time, material which is easy and interesting.
  - b. Read rapidly through a selection to find a particular thought.
  - c. Read as much as you can from books which deal with subjects that you like.
  - d. Compete with yourself, trying to improve your previous speed record.
  - e. Be sure you are not using your lips while reading silently.
  - f. Increase your vocabulary.
  - g. Try to get the meanings of unfamiliar words from the way they are used in the sentences in which they occur.

## The Microbe World

This article is the first of a series of articles on science topics. Watch for words that are peculiar to science. Add the new ones to your vocabulary.

Read in an effective way. You may need to use skimming; rapid, normal, or slow reading rate; rereading; mental summarizing.

As you read this description of microbes, select what you consider the ten most important facts. Write them on your paper so that you may remember them.

Microbes are among the smallest living organisms in the universe, yet they have killed more human beings than have all the fierce animals the world has ever known. They also have made possible great industries upon which thousands of human beings depend for a living.

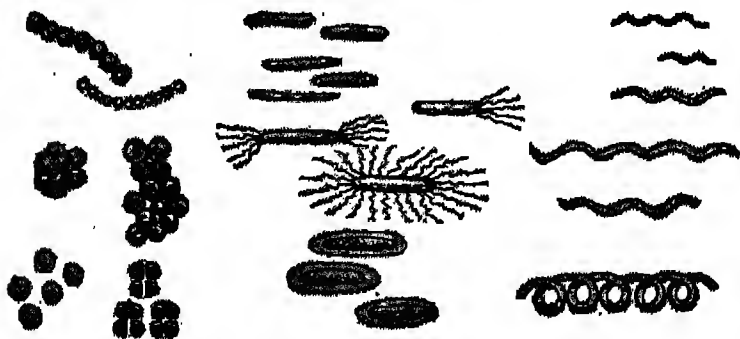
Microbes were first seen several hundreds of years ago by a scientist who peered through the brass tube of a crude, newly invented microscope. Even though his instrument was crude, it magnified objects many times their actual size.

The word *microscope* comes from two Greek words meaning *small* and *to see*. As its name implies, it is an instrument which enables the user "to see small things." The microscope consists chiefly of a small brass tube, capped at each end by a finely ground piece of glass called a lens. The lens at the upper end is called the eye-piece; the lens at the lower end is known as the objective.

Modern microscopes enlarge objects hundreds and even thousands of times their real size. The scientist of the present day, with the help of microscopes, can see in a drop of water thousands of microbes that are invisible to the naked eye.

The smallness of a microbe can hardly be realized. Scientists say that about half a million average-sized microbes could be placed on a spot the size of the point of a pin. To a scientist "average size" means the average size of microbes he has already seen. He admits that there is a whole world of microbes which even the most powerful microscope will not show. He knows that these very small microbes exist, however, for he sees the work they do. Smallpox, rabies, and measles are caused by microbes that have never been seen.

Microbes are plants and are divided into three groups, depending upon their shapes. A round or oval microbe is called a *micrococcus*. The microbe that resembles a stick or rod is called a *bacillus*. The kind whose shape is twisted into a spiral formation, like a comma or an s, is called a *spirillum*.



Cocci

Bacilli

Spirilli

Only the microbes with a fringe of hair on their sides can move. Some move quite fast. Typhoid microbes, for example, can travel rapidly, and cholera microbes have been known to progress 180 inches in a day.

It takes less than an hour for a young microbe to become an adult. Once or twice every hour the adult microbe splits into two parts. Each part lives as a separate organism. One microbe, by splitting only once an hour, will produce over sixteen and a half million descendants in a day.

At their rate of reproduction it would seem that microbes would soon overrun the earth, but fortunately other factors help to prevent such rapid multiplication. Often microbes take foods that do not agree with them. They become ill, and when in that condition, they cannot split and form new microbes. Lack of food may destroy millions of them; heat and cold kill still more millions. In the microbe world, too, fighting is constantly going on and the stronger microbes destroy the weaker ones.

There are several ways in which microbes can be killed. Most microbes will die quickly in dry air. Like man, most of them must have oxygen to live, and they will die if it is lacking. High temperatures of about 131 degrees, if continued for ten or fifteen minutes, will kill many kinds of germs. Cold will not kill many, but it does destroy some. Microbes that are in water which freezes usually die in a few weeks. Tests have shown that sunlight kills some microbes almost at once. Many types of disease microbes enter the human body where temperature is not usually extreme; therefore, these tiny enemies find conditions favorable for their growth.

Many microbes grow best in certain temperatures. The tuberculosis microbe cannot live in a temperature that is above 116° Fahrenheit, whereas another kind of microbe cannot live unless the temperature is warmer than 116° Fahrenheit.

Microbes do not stay in one place. They are spread from one person to another chiefly by contact. In thickly populated sections where people live close together, it is easier for disease microbes to live and spread. In mid-ocean and in the extreme northern section of the world the air is almost free of microbes harmful to man because of the almost total absence of human beings upon whom these little plants live. Wherever there are human beings or animals, harmful microbes will be found in the largest numbers.

There are microbes in dust, of course, but there is reason to believe that dust, as far as its microbic content is concerned, is not so dangerous as was once supposed. The dryness of dust, the penetrating rays of the sun, and the fact that in the dust there is usually nothing upon which to live combine to kill many of the microbes.

The effect of sunlight on microbes can be seen under the microscope. It is the ultraviolet rays that are a part of the sunlight which hinder this growth and kill them. The fact that the ultraviolet rays kill microbes explains why most disease microbes thrive in dark places, and why people seek health by staying in the sunlight. It explains, too, why so many doctors of the present day use ultraviolet rays in the treatment of certain diseases.

Microbes live best in water which has an even temperature. In water that comes through deep ground, as

wells or springs, harmful microbes may be few in number because of lack of surface contamination and natural filtration. In running water, the number of microbes is reduced because they are exposed to sun rays and air, both of which are effective agents in destroying these organic microbes. Many rivers have sewage and decayed refuse flowing into them, and microbes are always present in materials that are in the process of decay.

Sewage in rivers is especially dangerous to man. It often carries with it typhoid and cholera microbes. Where water is not purified in a filtration plant or does not come from a deep well or underground spring, it is likely to be impure. It is advisable to boil such water before drinking it, in order that any harmful microbes may be killed by the heat.

The discovery of the microscope was of tremendous importance to man. Before that time no one knew what caused disease. No one knew that dirty streets and decaying garbage were among the causes of poor health. People did not realize that the best way to prevent illness was to get rid of wastes and to purify the drinking water. They did not know that one of the first steps toward health was cleanliness.

#### ACTIVITIES

1. Read your list of ten important facts. Is their meaning clear to you? If not, reread the parts of the article which will make their meaning clear.
2. Select from the statements below, those that are true. On your paper write only the letters that indicate the true statements.
  - a. No one had ever seen a microbe until the invention of the microscope.

- b. About half a million average-sized microbes will cover a place no larger than the end of a pin.
  - c. The microbes of smallpox are too small to be seen even with a microscope.
  - d. One microbe can produce sixteen and a half million descendants in twenty-four hours.
  - e. Microbes that live on dead material are among the most harmful to man.
  - f. All microbes can be killed by a temperature of 116 degrees.
  - g. Cold will kill most microbes.
  - h. Most disease microbes grow in dark places.
  - i. Large rivers contain fewer harmful microbes than mountain streams.
  - j. Before the microscope was invented, no one knew what caused disease.
3. Use each of the following science terms in a sentence to show that you know its meaning and use:
- |             |                     |
|-------------|---------------------|
| a. lens     | g. spirillum        |
| b. crude    | h. microscope       |
| c. oxygen   | i. descendants      |
| d. rabies   | j. micrococcus      |
| e. microbe  | k. filtration plant |
| f. bacillus | l. ultraviolet rays |
4. State why it was necessary to read this article rather slowly and carefully and to reread parts.
5. Explain in a few written statements which reading in your school subjects is similar in character to this article. Tell how you usually read such articles.
6. How can you improve your reading of articles assigned in your studies of science or health?

*Check your answers to 2 with those on page 554*



## Our Microbe Friends

As you read this article, try to remember the ways in which microbes act as your friends. When you have completed the article, review it mentally and decide what are the important things to remember. Then, if you think it is advisable, you may reread parts of the article.

Microbes are of three classes—those that are harmful, those that are harmless, and those that are helpful. Some microbes fall into more than one of these divisions; they may or may not be harmful, depending upon the type of work they do at the moment. When they turn milk sour, they merely are annoying; when they help in the manufacture of butter and cheese, they are helpful. Microbes are condemned when they cause meat to spoil and decay; they are not condemned when they cause dead plants and animals to decay into enriching material for the soil.

Among the services microbes perform are:

1. They aid in changing milk to cheese.
2. They help in the making of bread.
3. They aid in the making of vinegar.
4. They help in the process of tanning leather.
5. They "cure" tobacco.
6. They make the soil fertile.

Friendly microbes play an important part in the manufacture of by-products of milk. When milk remains in a warm place, one group of microbes multiplies rapidly. The microbes curdle the milk and give it a sour taste. The milk, however, is usable.

Cheese is made from sour milk. A substance called rennet is added to the milk. It separates the curd, or solid material, from the whey, or liquid material. The curd is then set aside, and time is provided for friendly microbes to change it to cheese. The flavor of the cheese depends upon the type of microbes that do the work. Roquefort cheese, with its sharp flavor, is made by one kind of microbe. Swiss cheese is formed by another kind of microbe. Even the holes in Swiss cheese are produced by gas made by the microbes working in the cheese.

Cream is used in the manufacture of butter, and again friendly microbes play an important part. There are many kinds of microbes that will help change cream into butter. Some microbes will give the butter a pleasant flavor, while others will make it taste disagreeable. Butter produced on different farms may vary greatly in flavor. In the laboratory, men have tried to discover which microbes produce the best butter. The microbes selected can be kept separate from all others and can be put into the cream when butter is desired.

Vinegar, a by-product of apple cider, is another example of the work done by friendly microbes. When apple juice is left to age for five or six months, microbes attach themselves to the sugar that is contained in it. By a process called fermentation, the sugar is changed into two substances—alcohol, a liquid, and carbon dioxide, a gas. A small part of the apple juice is changed into alcohol, and the apple juice becomes cider. If the cider is allowed to remain in a warm place for about fifteen months more, it will turn into vinegar. It must be left open to the air, for the microbes that produce the change cannot live without oxygen.

Although microbes are very small, groups of them can be collected and packaged. The ordinary yeast cake is composed almost entirely of microbes which are alive, but not growing. When dissolved in a warm liquid, the plants begin to grow and to work.

Carbon dioxide gas, formed by yeast microbes, plays an important part in the making of bread. In the flour there is a small amount of sugar, which is changed by the action of microbes into carbon dioxide gas. Because the dough is too thick and heavy for the gas to break through, bubbles form and cause the dough to spread. This action is called "rising." When the dough is heated, the bubbles grow larger and form small openings, or holes, that can be seen in the bread structure.

One of the greatest contributions of microbes is the help they give the farmer in enriching his soil. In soil there is a chemical called nitrogen, which is essential to the growing of many foods. Man needs nitrogen in his body, and he can secure it only from plants. It may be obtained either directly or indirectly. If, for example, man gets nitrogen from meat, then the animal which furnished the meat obtained that nitrogen from plants.

Plants can secure nitrogen only from the soil. As the plants use the nitrogen from the soil, more of it must be put back into the earth. It is in putting nitrogen back into the soil that microbes perform a valuable service.

Microbes return nitrogen to the soil in two ways. One group of microbes take into their bodies the nitrogen from decaying plant and animal materials and carry it back into the soil, where it is used again by growing plants. Another group of microbes secure nitrogen from the air. These small creatures attach themselves to the

roots of certain plants and form little "nodules" into which they store the nitrogen. The plants use the nitrogen. When the plants decay, the nitrogen returns to the soil.

Farmers, knowing that these nitrogen-producing microbes are helpful, use them to prevent the land from losing its fertility. By the practice of "rotating crops," which means that a different crop is planted each year, the microbes are given an opportunity to replenish the soil. One year the farmer may plant wheat, which requires a great deal of nitrogen in the soil. The following year the farmer will probably plant clover, peas, or beans, for these plants attract nitrogen-producing microbes to their roots. At the beginning of the third year it is safe for the farmer again to plant wheat, because the microbes have replenished the soil with nitrogen.

Without the help of nitrogen-producing microbes, much farming would be unsuccessful, for without nitrogen in the soil, many plants would not grow. Without the products of agriculture, man could not exist as a civilized being.

#### ACTIVITIES

1. Write on your paper the answers to the following questions:
  - a. What helps change milk to cheese?
  - b. How do microbes help in making bread?
  - c. How do microbes help in making vinegar?
  - d. How are microbes useful in the "rotation of crops?"
  - e. What is one reason why butter produced on different farms varies in taste?

2. Write on your paper the letters from *a* to *l*. Beside each letter write the number of the definition which gives the correct meaning of each word.
- |                             |  |
|-----------------------------|--|
| <i>a.</i> decay             | 1. the watery part of milk   |
| <i>b.</i> epidemic          | 2. mysterious substances in foods that produce growth                            |
| <i>c.</i> vitamins          | 3. substance used in making cheese, to separate the curds from the whey          |
| <i>d.</i> yeast cake        | 4. the thickened part of milk  |
| <i>e.</i> curds             | 5. to rot  |
| <i>f.</i> whey              | 6. a disease attacking many people at the same time                              |
| <i>g.</i> fermentation      | 7. a gas, often produced by bacteria, useful in making bread "rise"              |
| <i>h.</i> oxygen            | 8. microbes packaged together, useful in causing fermentation                    |
| <i>i.</i> rennet            | 9. the process of changing the sugar in a liquid into alcohol and carbon dioxide |
| <i>j.</i> carbon dioxide    | 10. the planting of different crops each year to keep the soil fertile           |
| <i>k.</i> nitrogen          | 11. a gas in the air, breathed by man  |
| <i>l.</i> rotation of crops | 12. one of the gases of the air needed by plant life                             |

3. What is meant by "curing" tobacco? Name an article of food that is sometimes "cured." Find out if it is cured by the same method used for curing tobacco.
4. In a text for one of your science classes (as, Health, Agriculture, etc.) find what foods are rich in nitrogen. How did microbes contribute to these foods?
5. Write a statement to tell:
  - a. the way in which you read the article.
  - b. why this article and the preceding article were fairly difficult to read.
  - c. which of the two articles on microbes was the more difficult.

*Check your answers to 1, 2, and 3 with those on page*

## Enemy Microbes

Microbes are our greatest enemies. A small army of scientists and doctors are constantly defending us from them. As you read this article, try to remember the ways in which doctors treated diseases before Pasteur's great discovery and the ways diseases have been treated since.

Although there have been medicine men and doctors all through history, medical science never was able to make much headway against the mystery of disease until the microscope showed the hidden world of microbes. Through the use of that wonderful device new discoveries in the microbe field are made each decade.

At one time in history the average life of man was twenty years. Today it is around sixty, and soon, man may have an even chance of reaching threescore and seven years. This great increase in length of life has been largely the result of greater emphasis upon cleanliness and sanitation. After men knew that microbes caused disease, engineering skill was used to construct sewage and street drainage systems, filtration plants, and healthful homes with plenty of sunlight. Refrigerator cars were provided for the transportation of perishable goods. Swamps were cleared. Many slums were torn down. Scientists searched for ways of killing harmful microbes that enter the body.

Primitive men thought that disease was caused by evil spirits which entered the body of the victim. They thought the only way to save a sick man was to drive



the evil spirit out of his body. Several methods were used in the process. Usually the spirit was coaxed to come forth. If coaxing did not succeed, force was tried. In some cases tom-toms were beaten; in others the beating was done on the chest of the sick man. Usually the patient died before the evil spirit fled.

During the Middle Ages, doctors said that the human body was composed of four substances—blood, phlegm, yellow bile, and black bile. When these four substances were mixed properly, a person was healthy, but when one became more powerful than the others, sickness occurred. The best cure, they believed, was to lessen the amount of blood in the body, until the four substances were again mixed properly. Thousands of people were bled to death by doctors who were trying to cure them.



Other odd "cures" were sometimes used. History tells of kings and nobles who spent thousands of dollars for diamonds, which were ground into a powder, put into a liquid, and drunk. This mixture was considered a royal medicine.

In Europe plagues sometimes destroyed as many as one quarter of the entire population. Doctors could do nothing to prevent the plagues from spreading, for they did not know that they were caused by disease microbes carried by rats. A doctor would have been laughed at if he had said that the best way to stop the Black Plague was to kill the rats.

In the middle of the nineteenth century, Louis Pasteur proved that microbes caused decay. A few years later, Robert Koch showed that microbes caused disease in cattle. From that time on, scientists all over the world studied microbes. Under the microscope they were able to see and to identify the tiny enemies of man.

Without the work of Pasteur and Koch, the Panama Canal could never have been built. As a result of their studies, other scientists began looking for the microbes that caused malaria, a disease common in the tropics. The microbes were found in the body of a certain type of mosquito. After that it was comparatively simple to rid the Canal Zone of the insect that had already ruined the best efforts of France to build a canal across the Isthmus of Panama.

The dread disease smallpox has been conquered through the use of vaccination. Diphtheria and other diseases are being eliminated gradually through serum inoculations. The special microbes of the disease which is to be prevented are given to a person. A light attack

of the disease may result—so light, in fact, that it may make no impression on the patient. It does, however, usually keep the person from ever having a complete attack of that disease. A serum which is being experimented with at present may some day prevent or cure the dreaded disease called infantile paralysis.

Most people are familiar with vaccination for smallpox and with what it does in preventing or in combating that disease. At the present time a smallpox epidemic is unheard of, but at one time the disease was the most dreaded of all plagues. History tells that in Europe sometimes one-third of a nation died in a single year during a smallpox epidemic.

The purpose of vaccination is to develop an army of trained white corpuscles which will attack smallpox microbes. If a few weak smallpox microbes are purposely placed in the blood stream, the white corpuscles will attack and overcome them and will thereafter usually be strong enough to defeat any stronger smallpox microbes that may enter the body.

The fight against disease is still being carried on. Great doctors and scientists in hospitals and laboratories all over the world are working day and night to discover the microbes that cause the many other sicknesses that attack man. Many wealthy men have left huge sums of money to pay the expenses required for this work. Every day some new step is being made in man's fight against enemy microbes.

#### ACTIVITIES

1. On your paper write the answers to these questions:
  - a. What are six ways in which science and engineering skill have helped increase length of life?

- b. What were two opinions of the cause of disease held at different times before the discovery of the existence of microbes?
  - c. The discoveries of what two scientists helped to make the completion of the Panama Canal possible?
  - d. How does vaccination for smallpox prevent one from later contracting it?
2. Use each of the following words in a sentence. Look up the meaning of any word with which you are unfamiliar.
- |               |                        |
|---------------|------------------------|
| a. tiny       | k. official            |
| b. germs      | l. expedition          |
| c. serum      | m. identify            |
| d. threescore | n. epidemic            |
| e. plague     | o. substances          |
| f. victim     | p. sanitation          |
| g. uttered    | q. corpuscles          |
| h. malaria    | r. inoculation         |
| i. career     | s. vaccination         |
| j. obstacle   | t. infantile paralysis |
3. Discuss the methods used in reading this article.
- Check your answers to 1 with those on page 554*



## The Man Who Discovered White Corpuscles

Read to find out why this discovery was important and how the discovery was made.

A middle-aged man sat in his laboratory looking out on the seacoast of Sicily near Messina. Through his heavy spectacles he could see the incoming tide rising eagerly to set new marks on the hot sands. The man was Elie Metchnikoff, a Russian scientist.

Dr. Metchnikoff turned to watch a giant starfish, an animal he considered especially interesting because of its transparency. He could watch everything that happened within its body.

He had been watching the starfish devour its dinner. The doctor had provided the dinner—a crimson powder secured from the dried body of an insect. As he watched, he had seen small cells in the body gradually move toward the grains of powder. Slowly the cells had surrounded the grains and had digested them.

"It's queer that the starfish will eat that food," said Metchnikoff to himself. "Why do these particular cells, and no others, move over to eat the grains? Is it because they want food, or for some other reason? For a long time I have been trying to find out more about these cells."

The doctor pulled a few thorns from a rosebush in his garden. He pushed a few of them into the body of the starfish. The same cells moved out and ate the thorns.

"I believe I now have learned what I have been trying to find out!" cried the doctor. "These cells do not want anything to eat. They protect the body from invaders. They eat these things merely to prevent enemies from injuring the starfish."

Metchnikoff immediately sat down at his desk and tried to put his findings in writing for the world to read. He wrote somewhat as follows:

"As soon as microbes enter the body, they would kill all living matter, if it were not for the tiny defenders that rush immediately to fight them. To the defenders in the human body we give the name of white corpuscles. As soon as microbes enter through a cut in the skin, a whole army of white corpuscles pushes through the walls of blood vessels and attacks the intruders. Great battles are fought. If the white corpuscles win the battle, the body is cured. If they lose, there is great danger that the body will die."

Metchnikoff had another idea about corpuscles. He claimed that the army of white corpuscles becomes more powerful when it is trained.

"Pasteur," he said, "has discovered that when a person has had a slight attack of a disease, he usually does

not get it again. The reason is that the white corpuscles already have once conquered disease germs of that type and know exactly how to do it again. A vaccinated person is given an injection of weak disease germs. The white corpuscles eat them. They become used to eating them, and are thus able to tackle stronger microbes of that kind that may enter the body later."

One of Metchnikoff's great aims was to overcome death. He said we might never be able to overcome death but that we could at least learn how to avoid it until the body became so weary that death would be a welcome relief.

In old age, according to Metchnikoff, the cells become weaker because of the slow poisons given off by microbes living in the large intestines. The weakened cells are unable to defend themselves. The way to postpone old age, he believed, was to inject into the large intestine friendly microbes that would destroy the harmful ones living there.

Although Dr. Metchnikoff lived a life rich in service until he was seventy-one years of age, there had been a time when life had seemed too tragic for him to endure. Death at that time would have been most welcome, for he had just suffered a series of great misfortunes in quick succession.

The first of his misfortunes occurred when Metchnikoff was only thirty years old. The young wife, whom he loved devotedly, died. Then came partial blindness which prevented him from pursuing further his beloved scientific studies. Doctors told him that complete blindness awaited his weak, overworked eyes.

In the depths of his despair Metchnikoff swallowed

poison, but it failed to bring death. One cold night he took a hot bath and then deliberately walked the streets of Geneva with no coat on and his shirt collar open. He felt the cold slowly stealing down into his lungs.

"The hot bath, followed by this cold walk, is sure to result in pneumonia," he said to himself. "Very few people ever recover from pneumonia. What have I to live for?"

It was true that he already had won fame. Everything he had written since he was fifteen years old had been published in magazines devoted to scientific articles. He had studied in the great universities of Europe; he had traveled in many countries. At twenty-two years of age he had served as a professor in the University of Odessa. His beloved wife was dead, however, and he was going blind. There was no use living longer. As he walked along thinking such thoughts, suddenly he stepped into a large cloud of insects buzzing around a lighted lantern on the Rhine bridge.

"Why, they must be May flies," he observed. "Those little insects cannot eat. They can live only a few hours. Where do they get their strength? I must hurry home to work on the problem."

Forgetting about his desire to die, he returned home. Interest in science had saved Metchnikoff's life.

Metchnikoff did not lose his sight. In the years to come he found much to live for, especially in the field of science. His discovery of the work of the white corpuscles alone helped much in the world's fight against disease.

"Science saved my life many years ago," Metchnikoff often exclaimed. "It is right that I devote my life to it."

## ACTIVITIES

1. What was the great discovery Metchnikoff made about the work done by white corpuscles?
2. What was Metchnikoff's theory about why people become immune to some diseases?
3. You have heard the old saying about it always being "darkest before the dawn." How does this apply to Metchnikoff?

## SUMMARY ACTIVITIES

1. In what ways can you improve your reading of science, history, or other lessons? Tell exactly what you should do.
2. If an experiment is to be performed in science, how should the directions for that experiment be read?
3. How does your reading of science and history materials differ from your reading of storybooks?
4. List ten words encountered in reading the history content that are not in your speaking vocabulary; ten from the science content. How can you make the words in your list a part of your ordinary conversation?
5. Sometimes physical weaknesses cause poor reading habits. Explain how each of the following may cause a pupil to become a poor reader.
  - a. poor eyesight
  - b. poor hearing
  - c. nervousness
  - d. illness (poor attendance)



## SECTION IV

### Applying Reading Skills in Reading for Enjoyment

*This section of the book offers an opportunity to read materials of various kinds that are usually read solely for enjoyment. With the stories, play, poems, and fairy tale are guides to help you get the most enjoyment from your reading.*



## Reading for Enjoyment

Almost everyone does a certain amount of reading for recreation. Fiction, which includes both long and short stories, is the most common form of recreational reading. Many people also get pleasure from reading poetry. Plays, though less commonly read, are enjoyed by a considerable number of people.

Usually the only purpose in reading stories, plays, or poetry is the enjoyment which one gets. Such reading is not work or study. The reader does not feel that he must remember the details of the story, the language of the poem, or what a given character in the play may have said. What one reader may like and remember may be quite different from that of another.

Whether stories, poems, and plays are read in a fast or slow manner depends on what the reader enjoys and on how difficult the reading is.

Most people read a story rapidly, simply because they are interested in what is to happen. Rapid readers usually get more enjoyment from their story reading because they can read more and can read with less effort. Sometimes a story is written so well that the reader enjoys the language almost as much as the story. In such cases parts may be read more slowly in order to enjoy the way the author tells parts of his story.

Sometimes one finds it necessary to decrease reading speed in order to "read between the lines," or in other words to use the imagination in order to see what the author intended to convey.

A poem is often skimmed to discover whether the reader likes it and then, if it proves interesting, it is re-read slowly. The best way to read a poem is to read it aloud or to say the words to oneself.

Because plays are written to be spoken they need to be read rather slowly. The form in which they are written makes rapid reading rather difficult. Saying the words to oneself or reading the lines of a play to someone add also to the pleasure of reading a play. Visualizing the scene or setting in which the action of the play takes place and mentally acting out the parts add to the enjoyment.

This reading unit contains two short stories, a play, some poems, and a fairy tale which it is hoped you will enjoy reading. Read them in the way which will give you the most pleasure. Some paragraphs are such that you may wish to read them solely to let your imagination find what is "between the lines."

# Barney Cook, Boy Detective<sup>1</sup>

by

HARVEY J. O'HIGGINS

Barney Cook sat impatiently beside a varied assortment of fellow applicants who were seated on a bench in Room 1056 of the Cranmer Building on Broadway. He pulled a torn scrap of newspaper from the inside coat pocket of his Sunday-best suit and read for about the twentieth time two heavily penciled lines.

"Boy, over 16, intelligent, trustworthy, for confidential office work; references. Address B-67 *Evening Express*."

He lingered over the words "confidential office work" while a thrill of secret satisfaction pervaded his entire being. Over his face crept a dimple-revealing smile of eager anticipation which gave him an appearance of animated intelligence and lighthearted cheerfulness.

Barney had dismissed from his thoughts the dozen or so rivals of his who had been summoned by letter to be interviewed by the mysterious H. M. Archibald in Room 1056. Replacing the clipping, he scanned the occupants of the outer office. Then, with the disdain which comes from a superior knowledge of coming events, he forgot his surroundings and concentrated his attention on the door leading to an inner room. The conventional, everyday hum of the typical office with its telephones ringing, typewriters clicking, clerks prattling may have captured

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<sup>1</sup>Adapted from *Adventures of Detective Barney* by H. J. O'Higgins—D. Appleton-Century Company, New York.

the interest of the other boys, but the large brown eyes of the plump and sturdy sixteen-year-old Barney remained riveted on the closed door at the far end of the office.

Occasionally running a hand through an unruly clump of black hair, he waited for the door to open. Nervously, like a racehorse awaiting the sound of the gun, he held himself alert, ready to be the first one interviewed. Once he saw a sinister, bearded man with a red handkerchief tied around his neck, appear for a moment in the doorway. At once his imagination, which had been on the exploits of Nick Carter, leaped out of bounds. Surely the bandana was a disguise! Perhaps the black mustache was false!

In the uniform of a telegraph company messenger boy Barney had delivered telegrams on many occasions to the main office of the Babbing Detective Bureau down the hall, in Room 1070. In fact, it was there not longer than forty-eight hours ago that the impressionable messenger, assisted by a healthy curiosity, had found out the real source of the want ad with its "blind" address. Barney had been asked by the office clerk to deliver an envelope to the advertising department of the *Evening Express* on his return trip. It was lucky for Barney that the envelope was not sealed and that he could find out that the "confidential office work" was for none other than the famous Walter Babbing!

Only once in his many months' career as messenger boy Barney actually had seen the great detective. He recalled the incident as though it were yesterday. Babbing had stood in the doorway long enough for Barney to hear him say: "I'll meet you at the station. Get the

tickets. I'll send Jim down with my suitcase." The operative had replied: "All right, Chief." In frank open-mouthed amazement young Barney had taken his book from the clerk, and all the way back to the telegraph office had conjectured on the "ordinary" appearance of the "Chief."

It is not to be wondered at, then, that on the present occasion Barney experienced little difficulty in recognizing the fat rotundity of the little brisk-moving detective when he emerged from an inner office. Babbing was clad in a spring overcoat and a light felt hat and had a black satchel in his hand. Barney had risen quickly to his feet just in time to overhear the detective mention the "Antwerp" and add "Until 3 o'clock" in reply to the telephone girl's query.

"I'll take your suitcase, Mr. Babbing," Barney offered, helpfully, and Babbing gave it to him in an absent-minded manner.

Barney's actions upon the appearance of the great detective had been automatic responses to a strong desire to make Babbing recognize him, appreciate his services, and give him a job. All the way from the office to the waiting taxicab at the curb, Barney tried to attract the detective's attention, but the indifferent, remote Babbing entered the cab and signaled to the driver without noticing Barney's presence and without thanking him for placing the suitcase at his feet. Reluctantly, Barney shut the cab door.

He stood looking after his lost opportunity for one regretful moment. Then, suddenly inspired, he turned and ran in the direction of City Hall Park to get an express train in the subway station at the Bridge.



The subway, being not only a much more economical mode of conveyance than the taxi, was also a speedier one and deposited Barney at 42nd Street in record time. Thus it happened that Barney was standing near the entrance to the Antwerp when Babbing's cab whirled around the corner and drew up to the sidewalk. Barney opened the cab door and took the suitcase briskly, with a smile of recognition which the detective ignored. When the driver had been paid, Babbing entered the hotel, apparently oblivious of his escort; and Barney followed, undiscouraged, with the bag.

"Get away, kid," said Barney to the bellhop who offered to carry the bag, "or I'll bite your ankle."



Opposite Room 814 they stopped and Babbing unlocked the door with the key which he had received from the hotel clerk. Barney entered a comfortable, bright hotel bedroom of average size and while he crossed the thickly carpeted floor to deposit the suitcase on the table in the center of the room, the detective hung his hat and overcoat in the closet.

"When did Mr. Archibald take you on?" he inquired.

"He hasn't taken me on—yet," Barney admitted.

From his own key ring Babbing selected a small key and proceeded to unlock his bag. Then, much to Barney's surprise, he carefully removed a pair of glasses from a case which he took from his vest pocket, and while he was engaged in cleaning the lenses thoroughly, he asked again: "How did you know that I was coming here?"

Barney explained that he had overheard the information given to the telephone girl.

Next, the detective took from his suitcase several letters, telegrams, typewritten reports, and packages of papers strapped in rubber bands, which he began to sort methodically into little piles on the table. He appeared to be entirely occupied with this work, but while his pudgy hands moved deliberately and while his eyes painstakingly studied the notations on the papers, he cross-examined Barney.

"How did you know who I was?" he asked.

"I often deliver telegrams to your office an'——"

"For what company?"

"The Western Union."

"Why did you leave them?"

"I wanted to work for you."

"How did you know we wanted a boy?"

"I saw the ad."

"How did you know it was ours?"

"I—I delivered it to the newspaper."

"Are you in the habit of opening letters that are given you to deliver?"

"No, sir."

"Don't smile so much. You overdo it," Babbing said, without looking up.

Barney shifted uncomfortably on his feet.

Babbing asked unexpectedly: "How tall are you?"

"About five feet," Barney answered at a guess.

"How much do you weigh?"

"About a hundred—an' twenty-five."

Babbing glanced at him appraisingly, went on with his papers again, and said: "When you don't know a thing, say so. It saves time. What's your name?"

"Barney. Barney Cook."

"Where do you live?"

Barney gave the number of his home in Hudson Street.

"The Greenwich village quarter?"

"Yes, sir."

"What does your father do?"

"He's dead. He was a policeman. He was killed."

"What was his name?"

"Robert E. Cook."

"Robert Emmet?"

"Yes, sir."

"When was he killed? How long ago?"

"About eight years."

Babbing was still at his papers. "Is your mother living?"

"Yes, sir."

"What does *she* do?"

"Looks after me an' my sister."

"What does she do for a living?"

"She rents furnished rooms. Her an' Annie. That's my sister."

"What does she do with your father's pension?"

"She puts it all in the bank."

"What bank?"

"I—I dunno."

"She doesn't own the house?"

"No, sir."

"Who owns it?"

"I—I forget."

Babbing found a typewritten report for which he evidently had been looking. As he crossed the room to the telephone, he asked: "Do you smoke cigarettes?"

"No, sir."

Babbing took the receiver from the hook. "When did you give up smoking?" he asked, suspiciously.

Barney hesitated guiltily for a moment. Then he answered: "This morning."

"Give me room eight-twenty," Babbing said into the telephone. He added, to Barney: "You can't work for me, if you're going to smoke. It will ruin your nerves."

While Barney, dumb with incredulous hope, was still trying to grasp the full implication of that warning, Babbing said: "Hello. This is eight-fourteen. Can you get in to see me for a few minutes? . . . Yes. . . . Have you received that uniform yet? . . . Bring it in with you."

He hung up the receiver but kept his hand on it. "Sit down," he said to Barney. He continued, to the telephone: "Get me one-seven-three-one Desbrosses . . .

Hello . . . Archibald. Babbing . . . You have an application there—in answer to our want ad—from a boy named Barney Cook. Have you looked up any of his references? . . . He says he delivered telegrams to us for the Western Union. His father was Robert Emmet Cook, a patrolman, killed about eight years ago. His mother lives in Hudson Street, where she rents furnished rooms. Run it out. 'Phone me right away, about the telegraph company and the police."

Babbing turned abruptly to scrutinize Barney over his spectacles. "Well," he said, "you don't look much like a plant—"

"No, sir," Barney admitted, not knowing in the least what was meant. Thinking that he was at the end of a successful interview, he rose and prepared to leave.

"Sit down," Babbing commanded, shortly and suddenly. "Your troubles have just begun.

"Come in!"

This invitation was in response to a knock at the door and a man nonchalantly sauntered in, his hat perched on the back of his head and a black suit of clothes draped over his arm. He was a large, swarthy, shrewd-eyed individual of about thirty-five, whose careless gestures and lazy good-naturedness were readily apparent. Barney at once mistakenly identified him as a Broadway "rounder" and race track "sport." The newcomer saw Barney and with an air of mock deference he proceeded to arrange the clothes artistically over the foot of the bed, as if he had come merely to deliver the suit. Barney did not guess that this play acting was because of *his* presence until Babbing, by a question, indicated that it was all right to talk and act naturally.

"Anyone been to see him today?" Babbing asked.

"Not a soul," he answered. "He's been out, this morning, but he didn't connect."

"Snider has picked up some more telegrams." Babbing held out the report to him. "In cipher."

"Got their code yet?"

"No. If we had that, we'd have everything. We can figure out a word here and there. The names are easy. But that's as far as we can get."

The two men, their backs to Barney, stood leaning over the table, deeply engrossed in a page of the report which Babbing was detailing to his operative. Unobserved and forgotten for the time being, Barney intently followed their every movement and, with his pulses pounding wildly, he listened to their every word. How he wished that he, too, were included in the tracking down of this criminal gang!

"Kacaderm', for instance," said Babbing. "That's 'Murdock!' He's one of the men they've been bleeding, out there. They take the consonants 'm-r-d-c-k,' reverse them 'k-c-d-r-m,' and fill in vowels. They do that, however, only with proper names. For instance, this last one: 'Thunder command wind kacaderm.' That can't be solved by reversing consonants."

The operative studied the page. "Search me," he said. "Has Acker worked on it?"

"Yes," answered Babbing. "It was he who puzzled out the names. It's not a cryptogram. They have some simple method of writing one whole word for another. There's no use wasting time on it. We'll have to make our plan to catch him writing a message."

"I see," said the man.

Babbing took off his spectacles and, twirling them by the ear bows, he began to pace up and down the room, lost in thought. The operative slouched on the edge of the bed, leaning forward, with his hands clasped between his knees. Once he removed his derby and gazed meditatively into it, as if he thought he might be able to find an idea there.

Suddenly Babbing stopped as though he had come to a carefully thought-out decision. He faced the tense and excited Barney.

"Young man," said the detective, his blue eyes narrowing on the boy's saucerlike brown ones, "I'm going to send you into the next room with a telegram. There's a man in there—registered as Marshall Cooper. Remember the name. You'll give the telegram to him and say, 'Any answer?' Watch him. It will be a cipher telegram that will look as if it had been received downstairs. See what he does to make it out. He'll probably want to answer it. If he does, you may have a chance to see how he makes up the answer. He has a writing table over at this window—here. If he sits down at it, he'll have his back to you. Try to see what he does. Don't try to do it by watching him quietly. He'd notice that. Move around and look at the pictures. Don't try to whistle—or anything of that fool sort. Try to act as you would if you were a bellboy."

Babbing pointed to the uniform hanging from the foot of the bed. "Take that suit of clothes," he said "and go into the bathroom and try it on."

In the meantime, Babbing and his operative talked imperturbably: "How are we going to send him a cipher telegram, Chief, if we don't know his code?"

"I'm going to repeat the one he got last night from Chicago. 'Thunder command wind kacaderm.' He hasn't answered it?"

"Not unless by letter, and they wouldn't get that till tonight," said the operative.

Babbing, thinking out loud, said, "He'll not go to the telegraph desk asking questions, because he won't care to identify himself to the man there. That's why he goes out to send his messages."

"Suppose he doesn't let the kid into the room at all."

"Well, suppose that when he opens the door the boy gives him the telegram and asks, 'Any answer?' He reads it and sees it's the same message that he had last night. That'll make him forget the boy. He'll be trying to figure out what has happened. The boy can stand at the door and watch him. It's worth trying, anyway. Go and get the telegram ready, Jim."

"What is it again?"

"'Thunder command wind kacaderm.' Unsigned."

"O. K. I've got it."

"Have you the envelopes?"

"Yep. Billy has everything in there."

"Don't seal it till I've looked it over."

"All right, Chief."

The operative—whose name was Corcoran—departed with the celerity of a heavy man accustomed to quick and noiseless movement. Babbing went to the bathroom door.

"That's not so bad," he said as he inspected Barney in his new uniform. "Turn around." He settled the coat collar with a tug and a friendly pat and continued, "Wipe off your shoes with a towel."

Barney looked up smiling. He found the detective's eyes kindly, amused, encouraging.

"I ought to send you out to get a new pair," Babbing said, "but there isn't time. Come in here, now, and let's go over this again. I have an improvement to suggest."

With his hands behind his back, he strode thoughtfully to the window and stood gazing down on the quick-moving pattern of the Avenue's morning bustle of traffic as if trying to discover in its monotonous regularity some formula which would guarantee the perfection of his scheme. Barney waited in the center of the room, ready and alert for the final instructions.

"You're a bellboy recently employed here," Babbing elaborated as he shifted his gaze from the window. "The man at the telegraph desk has just said to you: 'Take this telegram up to Mr. Cooper, room eight-eighteen, and see that he gets it, this time. It's a repeat.' That's not according to Hoyle but it will have to do. Cooper won't know any better, anyway. So, when you deliver the telegram at Cooper's door, you say: 'I was to be sure that you got it, this time. It's a repeat.' Step inside when you give him the message, so that he can't shut the door. Then watch him, as I told you before."

Babbing stopped, eyed Barney doubtfully, and said, "You couldn't possibly be as innocent as you look, could you? Because you'll have to do some quick lying, you know, if he suspects anything."

"Here," Babbing said, suddenly. He took a letter from the table and gave it to the boy. "Go into the bathroom. No. The door opens in. *I'll* go into the bathroom, and you come to the door and deliver this telegram. Let's see how you would do it."



Babbing went into the bathroom and shut the door. Barney turned the makeshift telegram over in his hands. He frowned a moment at the door. Then he went up to it and rapped. There was no answer. He knocked more loudly. A gruff voice asked, "What is it?"

"A telegram, sir," Barney answered.

"Put it under the door."

Barney smiled to himself for he was not to be caught at this game of wits. "They said I was to see that you got it, this time. It's a repeat."

The door was opened a few grudging inches. "What's that?"

"They said I was to see that Mr. Cooper got it, this time. It's a repeat."

"Well, I'm Mr. Cooper. Give it here."

Babbing put his hand out, still blocking the half-opened door. Barney gave him the letter. The door shut in his face.

Barney blinked at the panels for several seconds. Then he knocked again sharply. Babbing opened the door.

"Well, what is it?"

"They didn't give me a receipt form," Barney said. "Will you sign the envelope an' give it back to me?"

"Have you a pencil?"

"No, sir," Barney said.

"Well, wait there till I find one."

Barney tried the door slyly. It opened. He edged in, over the threshold.

"If you want to send an answer, sir," he said, "I can take it."

Babbing caught him by the "cowlick" that adorned his young forehead.

"Get out of here," he laughed, "or I'll have you arrested."

Barney, as startled as if he had been wakened from a dream, grinned confusedly.

"That's all right," Babbing said. "If you do it as well as that."

"Was I all right?" Barney cried, exultingly. "Was I?"

He knew that he had been; he could see it in Babbing's face; but he wanted to hear it.

Babbing's pleased expression changed to one of disapproval as he pointed to Barney's coat on the back of a chair, where, bulging conspicuously from the pocket a lurid detective magazine protruded.

"Yes," he said, "but this Nick Carter stuff—; you mustn't destroy your mind with that sort of thing. That must stop with your cigarettes."

Barney returned instantly to the hypocritical school-room manner of a pupil reproved by his teacher.

"Yes, sir," he promised.

Then Barney asked, shyly: "What has he been doin'?"

"Who?"

"Mr. Cooper."

Babbing re-entered the bedroom.

"That's my business, not yours. You do what you're told—in my office—and don't ask questions. And don't discuss cases. That's another thing to learn. . . . Come in," he called to Corcoran's knock.

The operative came in, took a yellow telegraph envelope from his pocket, and gave it to Babbing. Putting on his glasses, the detective carefully inspected the envelope. He then took out the telegram and read it. He compared the "time received" with his watch.

"That looks convincing," he said.

He moistened a finger tip and delicately wet the gummed flap.

"We can give it a couple of minutes to dry."

He handed the telegram to Barney. Then he went through his pockets for silver.

"These are tips you've received. A dollar on account for salary. He may ask you for change . . . Now don't be overanxious. If this plan doesn't work, we'll find some other way. If he gets suspicious and telephones to the desk — or anything of that sort — just get in here as quickly as you can, and we'll protect you. Sit down a minute."

He turned to the papers on his table. "Jim," he said, "you remember the disappearance case we had in Dayton—the little girl?"

"Yes."

"Our theory worked out all right. They've got a confession."

Corcoran took the paper eagerly and sat down to read it.

Babbing consulted his watch.

"Mr. Bellboy," he said at last, "you have a telegram for Mr. Cooper in eight-eighteen. Go ahead and deliver it."

Barney felt a peculiar quaking sensation in his knees as he walked unsteadily to the door. ("They said I was to see that you got it, this time.") Outside, he paused to close the door with unnecessary gentleness and made sure that the corridor was empty. ("It's a repeat.") Where was 818? He saw 819 across the hall to his left. He put a finger down the back of his neck and eased

his collar. He cleared his throat nervously. He walked boldly up to 818, raised his knuckles to a panel and knocked.

There was no answer. He had put his hand to knock again when the door opened and a tall man in heelless slippers and bathrobe said, "Well!"

"A telegram for Mr. Cooper," Barney said steadily. "They tol' me to see that he got it, this time. It's a repeat."

Cooper, in surprise and evident alarm, took a few steps backward.

"Come in," he said in a low-pitched voice. "What did you say?"

Barney stepped across the threshold and Cooper closed the door behind him.

"It's a repeat," Barney said, as he held out the telegram. "They told me to see that you got it, this time."

Cooper took the envelope nervously. He was a gaunt-featured long-nosed, lean man with deep lines from his nostrils to the corners of his thin lips. There was a little patch of lather drying on one cheekbone, and Barney gathered that he had been shaving. He wiped his hand on his bathrobe before he took the telegram. Watching him fumble over it, Barney unexpectedly found himself very cool and confident.

"Why!" Cooper said. "I got this last night."

"Maybe you didn't answer it," Barney suggested. "It's a repeat."

Cooper puzzled over the telegram. "Well," he said, "I—" His voice faded out. He turned and shuffled across the room to his writing desk, his eyes on the telegram. Unconscious of Barney's watchfulness, he took a small

cloth-bound volume from an upper drawer of the little desk and turned the printed pages, comparing the words in the message with words in the book.

"The code book!" flashed through Barney's mind in mounting excitement, but he said boldly, "If you want to send an answer, I could take it."

Cooper did not reply. He sat down at the desk, took out a pencil and wrote. He stopped often to consult the book carefully with the point of his pencil on the page.

"No, that's all right," he said, finally, tearing the telegram into tiny pieces. "There's no answer." He started to throw the torn paper into the waste basket, but checked himself and said, "Wait a minute."

When Cooper suddenly padded off to the bathroom in his slippers, Barney surmised that he was to receive a tip. With his heart in his mouth he darted to the secretary and hastily crammed the little code book into his pocket.

Upon Cooper's return to the room, Barney was standing near the door looking up at a framed engraving. He took the dime Cooper gave him, and without raising his guilty eyes said stiffly, "Thanks." As he went out, he glanced back and saw that Cooper was returning to the bathroom and his shaving.

Barney burst in upon the two detectives in breathless excitement.

"What's the matter?" cried Corcoran, jumping to his feet.

Babbling, jerking off his spectacles, inquired quickly, "What has happened?"

"I g-g-got it," Barney stammered, tugging at the book that stuck in his pocket.

"Got what?"

"His—his book."

"What!"

Corcoran grabbed Barney roughly by the shoulder and snatched the volume from his hand. He glanced at its brown cloth cover. "What?" he cried.

That second "What" expressed the extreme of incredulous disgust. He held out the book to Babbing who had not moved from his seat at the table.

"He's swiped the man's dictionary!" said Corcoran.

Babbing looked at it. It was a "pocket Webster," a cheap abridged edition on poor quality paper.

"Where did you get this?" he asked, and there was no kindly personality showing now in the cold malevolence of his steely-blue eyes.

"On his desk. I—"

"Why did you bring it?"

"Oh, hell!" Corcoran muttered. "This *kid* business."

"That'll do!" Babbing flared out at him. "I'm in charge of this case."

The two men glared at each other, as if they were old enemies, with old jealousies concealed and long injustices unforgiven. Corcoran turned with a shrug and sat down on the bed. Babbing rounded on the boy again.

"Why did you bring this?"

"Well, gee," Barney defended himself. "As soon as he got the telegram, he beat it to his desk an' yanked this book out of a drawer, an' began to hunt the words up in it, an'—"

"Wait a minute. Corcoran, get on watch out there. If you hear anything, come back for this boy. Take him in to Cooper and tell him you're the house detective—that

you caught the boy with this book and he confessed he's stolen it from eight-eighteen. Give it back and ask him not to prosecute because it would hurt the hotel. He won't anyway, and that'll hold him quiet till we can get time to turn around. Otherwise, we've tipped our hand."

Corcoran was already at the door. He went out on the final word.

"Now," Babbing said, with perfect suavity, "take your time. Show me exactly what he did."

"Well, look-a-here!" Barney took the book. "He got this out o' the drawer, an' then he sat down this way, and got a pencil, an' then he wrote down the telegram—"

"Wrote it down? Where? On what?"

"On a piece o' paper. An' then he looks in the book, this way, an' gets a word. An' then he looks at the telegram. An' then he goes back to the book an' turns over the pages. An' then he—"

Babbing reached for the dictionary. "Wait," he said, putting on his spectacles, and wrote on the back of an envelope: "Thunder command wind kacaderm." Below that he wrote it again, reversed, and then several times with the words changed about in all possible orders. He turned to the word "thunder" in the dictionary. It was at the bottom of the first of the three narrow columns that filled the page. He studied it closely. Then he studied the words around it. He turned the page, and his eyes widened thoughtfully on the word "through, (throo) prep. from." On the margin the point of a pencil had made a light indentation. He turned back to "thunder"; and on the margin there, the pencil mark showed in a raised point.

He wrote, under the word "thunder" on his paper, the word "through." Then he turned to the word "command" in the dictionary, but after a prolonged scrutiny he wrote nothing. Next he looked for "wind." There he found, on the same page but in another column, the word "will" touched with a faint pencil mark. He sat back in his chair and his face became meditatively blank.

Suddenly his eyelids constricted sharply. He wrote: "Murdock will come through." Turning back in the dictionary to the word "command," he found "come" standing directly beside it in a parallel column of print on the page. He looked at Barney and nodded.

"Got it!" he said, grimly. "Go and bring Corcoran."

Barney, glowing with pride, saw himself vindicated before the surprised Corcoran. Feeling like a Greek god, he ran on tiptoe to the door and signaled imperiously to Corcoran in the hall. The operative came, scowling.

When they returned to the room, Babbing said: "Sit down there, boy, and keep quiet. You scuttle like a rat . . . Jim, I've got his method. I want you to send off some messages while I'm decoding these. Wire our Chicago office: 'Case 11A393. Case completed. Immediately arrest Number Two on information in your files.' Wire Indianapolis in the same words to grab Pirie. He's Number Three. Have Billy 'phone the office to get papers and an officer up here, at once, for our friend next door. I'll hold him till they come. Go ahead. I'll finish this."

Babbing settled down to his task studiously, copying cipher telegrams, and writing between the lines the translated words as he found them in the dictionary. In a room that was quiet and sunny, working with an occasional complacent pucker of the lips, or raising his



eyebrows and adjusting his spectacles in a pause of doubt, he looked anything but sinister, anything but the traditional "bloodhound" on the trail in a man-hunt. There was something in his small rotundity and in the nattiness of his business suit that gave him an air of conventional unimportance.

Barney watched him, fascinated.

"Now, young man," Babbing said, "get off that uniform. I'm going in to get a statement from your Mr. Cooper. If anyone rings me up, take the number. If any of the men come in here, tell them where I am. I'm registered as A. T. Hume. Wait here till I come back."

Babbing had taken a small blue-metal "automatic" from his hip pocket and put it into the side pocket of his coat. He gathered up his notes and the dictionary.

"Don't make the mistake again of exceeding your instructions. You've forced our hand already."

"Yes, sir," Barney said, contritely.

The door had scarcely closed before he was capering about the room in a sort of disrobing dance, his face and body making rhythmic movements which would have given Indians in ceremonial dances ample cause for envy.

Suddenly he heard a thudded report in the hall. He stopped abruptly at the sound which seemed to him as though they might have been made by two books being clapped together. Then Babbing came in briskly, giving orders in a businesslike tone.

"Get out of here, boy," he said. "What have you done with that uniform? Put it in my valise. Snap it shut. Hurry. Report to the office tomorrow morning at eight-thirty." Then he was at the telephone saying, "Give me

the house detective. What? Mr. Dohn, your house detective." He put his hand over the transmitter and turned to Barney. "How much have you been earning?"

"Six dollars a week—with the tips," answered the boy.

"You'll start at twelve," said Babbing. "Hurry up. Get out of here. Tomorrow morning at eight-thirty."

Barney started for the door, reluctantly.

"Hello. Dohn? This is Babbing. Get up here as quickly as you can with a doctor. That swindler in eight-eighteen has shot himself. Hurry up!"

Barney, slamming the door behind him, fled down the hall, frightened, aghast, but with a high exultant inner voice still crooning triumphantly: "I'm a de-tec-tive! I'm a de-tec-tive!" Even in his horror at the thought of Cooper's method of departure, there was a pleasurable shudder, for he had all a boy's healthy curiosity about murder, shootings, and other affairs of bloodshed. "I'm a de-tec-tive!"

### ACTIVITIES

1. Read the footnote on page 163. What does *adapted* indicate?
2. Name some famous authors of detective stories; some detective-story characters that have become famous.
3. If this story were to be made into a play, how many acts do you think there should be?
4. If you and your classmates wish to do so, you may develop a play based on this story.

# Trap with Wings

*by*

SAMUEL W. TAYLOR

Tom had been alone on the hilltop for some time, waiting at the trailer loft for the return of the pigeons. It was a clear, sunny morning, and from the hilltop the boy could see the neat patterns of the towns across the bay, with the faint outline of the San Francisco-Oakland bridge far to the north, and to the south the city of San Jose.

The pigeons, high in the air, would of course be able to see much farther, and Tom hoped none of them would be lost. Today was the big test for them. Today would tell whether Dad's training had been sound and thorough, and if the homing instinct was strong in the birds. It's one thing to train pigeons to return to an ordinary home loft, but when the loft is on wheels and is taken miles away so that the birds have to search it out—that's something else again.

Tom was waiting anxiously at the portable loft, watching the cloudless California sky, when a truck ground into view over the rise and stopped atop the hill. He'd noticed the truck a moment before on the road below, and had seen that it was partly loaded with crated live chickens. Why it should have turned from the road and climbed the hill puzzled him. It was big, with high wooden sides.

Two men climbed out, and Tom found himself staring at the more slender one, vaguely aware that the man's

face was unpleasantly familiar. Both men were roughly dressed, but their waist overalls and jumper jackets somehow didn't seem to fit. They were well barbered. Their hands were clean and soft and their faces unburned by sun or wind. Tom noticed, also, the big diamond ring on one long white finger of the slender man.

The lean man smiled affably. He had a prominent nose and white teeth. "Hello, kid," he said.

Tom said, "Hello."

Grinning, the fellow turned to his plump companion and nodding at the trailer loft, he said, "Well, here it is. She's twenty-five, thirty miles from home, yet the pigeons find it and come back to it."

The trailer was a pigeon cote in miniature, with protected nests on the one end. The other end was open to make a mesh flypen. On top, at the front end, was a trap for the birds to enter, and just below it a small door where they could be released into the loft after they had entered the trap. Dad had taken the sixteen young homers he was training south to Salinas, where he was to release them one at a time, ten minutes apart; now in the cote were five old birds Dad was mating with some of the young homers.

"It's a good idea, all right," the plump man admitted skeptically, "but will it work?"

"Five birds got back already. Take a look," said the slender man.

"Those are old birds from the home loft," Tom corrected. "If they were released they'd go home. A homer always goes to where he was born. None of the young birds have come back yet. Dad took them to Salinas—"

Tom's voice died. The man's smile made Tom afraid.



"You're a bright boy," he said. "Like to show off how bright you are, don't you, kid?"

"N-no, sir," Tom gulped, his throat tight. There was a subtle menace in the fellow's tone that was worse than any snarled threat.

"Leave the kid alone, Robbie," the fat man said. And to Tom: "When are the young birds due?"

Tom was glad just then to see the first returning bird. "There's one!" he cried, and picked up his can of corn, rattling the grain so the circling bird could hear. "That's Harry. Come on, Harry, boy. Come on, Harry!" He stepped onto the trailer tongue, just below the trap, rattling the corn and calling the bird's name softly.

"Knows 'em all by name," he heard the plump man say. The young homer was wary about coming into the trap with two strangers near the trailer loft, and the truck with the crates of clucking chickens a short distance away. The bird circled again, alighted on the mesh of the flypen and flew up as the slender man made a movement.

Tom kept rattling the corn in the can, and calling soothingly. It was important that the birds should trap quickly and under all conditions. These young birds weren't being trained for racing. Dad was training them for the Army. The bird alighted on the trap board, and then came in through the barbed wires, and Tom was proud. He gave it some corn in his hand, but not too much right then. Then, moving carefully so as not to startle it, he picked it up and put it through the little door at the front of the trailer, releasing it inside.

"Say, that's all right, Robbie," the plump man said.

"Sure it's all right; I told you it was a cinch, Pete. With these birds, we don't have to have a stationary loft that can be spotted and watched. We can take these birds anywhere, and the trailer don't even have to be in the same place when the birds fly back to it. We can operate up and down the coast, and the cops will never know—"

"Easy," Pete said. "Little boys have big ears."

Tom was still on the trailer tongue, and in his notebook he'd put down the name of the bird and its time of arrival, just as Dad had instructed.

"You can't buy these homers," he said. "These are for the Army. Dad worked with pigeons in the last war, and now with the defense program—"

"We know, kid," the man said. "We saw the piece in the paper about it. That's what give us the idea." Then he added: "We never offered to buy anything"—with a slight emphasis on the word "buy."

A hand seemed to tighten inside Tom's chest, and he knew all at once who these men were and what they were going to do, and why at the very first sight of the

slender man there had been that vague feeling of unpleasant familiarity. As the man mentioned the piece in the paper, Tom remembered.

This was the face he'd seen in the newspaper a few weeks past. Tom had studied the picture at the time, after Dad had read the piece aloud to him and Mother; and Tom had felt that of all the mean and vicious people in the world, this man must be the very worst. He remembered the name now—Robindale. "Head of Ring," the newspaper had called him—the leader of a gang who were running diamonds into the United States. It wasn't being a smuggler that made Robindale the lowest man on earth—in Tom's opinion—but his method of using homing pigeons to fly the gems into this country from ships at sea.

All his life Tom had loved pigeons and especially the homers, with their bright eyes and the broad skulls that allowed for more brains than other pigeons, their strong shoulders and well-set chests, and the graceful wings that could take them hundreds of miles over strange territory and bring them unerringly to the home loft. He'd heard Dad tell about Cher Ami, who had flown a message that saved the Lost Battalion in the Argonne, who'd flown through shot and shell to return, even though wounded in one wing and carrying the message dangling from the remains of a shattered leg.

Yes; and there was Big Tom, who came through with his breast pierced by a machine gun bullet; and Spike, and President Wilson; and there was Mocker, who'd served so nobly that at his death he was given full military honors at Fort Monmouth. That birds descended from this heroic strain should be employed in a criminal

way seemed to Tom a violation of everything decent, and the man who forced them to smuggle certainly was vile.

According to the newspaper, Federal men had raided the loft to which the pigeons were returning from the smuggling ship and had captured three men but not Robindale, the leader. The ship had taken the pigeons on board a month earlier, when sailing from San Francisco, had picked up the gems somewhere on the journey, and when off the California coast on its return, the birds had flown the diamonds in.

"Have I got my lipstick on crooked, kid?" Robindale now was asking, and Tom realized he'd been staring through the little window of the trailer at the man. Tom's chest was very tight now. He got off the trailer tongue and leaned against it, suddenly weak so that he needed the support. He put his hands in his pockets and gripped his legs to keep from shaking. He tried not to show his fear. He didn't want Robindale and the ruddy man to suspect that he knew who they were.

"I think you've got something there, Robbie," the fat man was saying, nodding his ruddy face.

"Like spitting through a pipe," Robindale agreed. "We can move this thing up and down the coast anywhere, to make delivery of the birds to the ship. Then we can hide the trailer in any garage, anywhere, until time for the birds to come back—and even then we don't have to have the trailer in the same spot for them to return. Right now this thing's twenty-five, maybe thirty miles from the farm. I tell you, Pete, we can't miss."

Pete's ruddy face made a slow smile. "Ye-ah—it's so good it's almost a shame. It'll take all the risk out of the business, and we'll get soft and fat and lazy."



The two men laughed. Tom, who remained leaning back against the trailer tongue, found it hard to breathe. The men walked about the loft, inspecting it and making critical comments. "Pretty good job," Robindale finally admitted. "If the birds are trained, that's all we've got to worry about." He asked Tom: "Where's your old man loosing the pigeons?"

"Salinas. He's tossing them up one at a time, ten minutes apart. He was to toss the first one at eight-thirty this morning."

"And how many birds are there?"

"Sixteen."

"That'll take about three hours," Pete said, and looked at a watch. "Quarter to ten, now. And it'll take him a couple hours to get back here after he lets the last bird loose. He won't show up before one o'clock this afternoon at the best, and chances are all the birds will beat him here. They travel; don't have to wait for traffic."

Tom was biting his lip. Why hadn't he thought quicker? Why hadn't he told the men that Dad was only a few miles away and would be back soon? That might have scared them away.

"Well, if he's back before one, it's his hard luck," Robindale said casually, and Tom suddenly hoped Dad wouldn't return sooner than that.

The men went over to a live oak nearby and sat down on the brown grass underneath it. When another bird arrived, Tom brought it to the trap and jotted down the time of arrival, trying to do everything as if he suspected nothing. While waiting for the next bird, he looked carefully around, trying to see something that would suggest a way to save the birds. But the rolling hills to the east

and the valley and bay to the west, whose quiet expanse had seemed so beautiful earlier, now meant only isolation and distance.

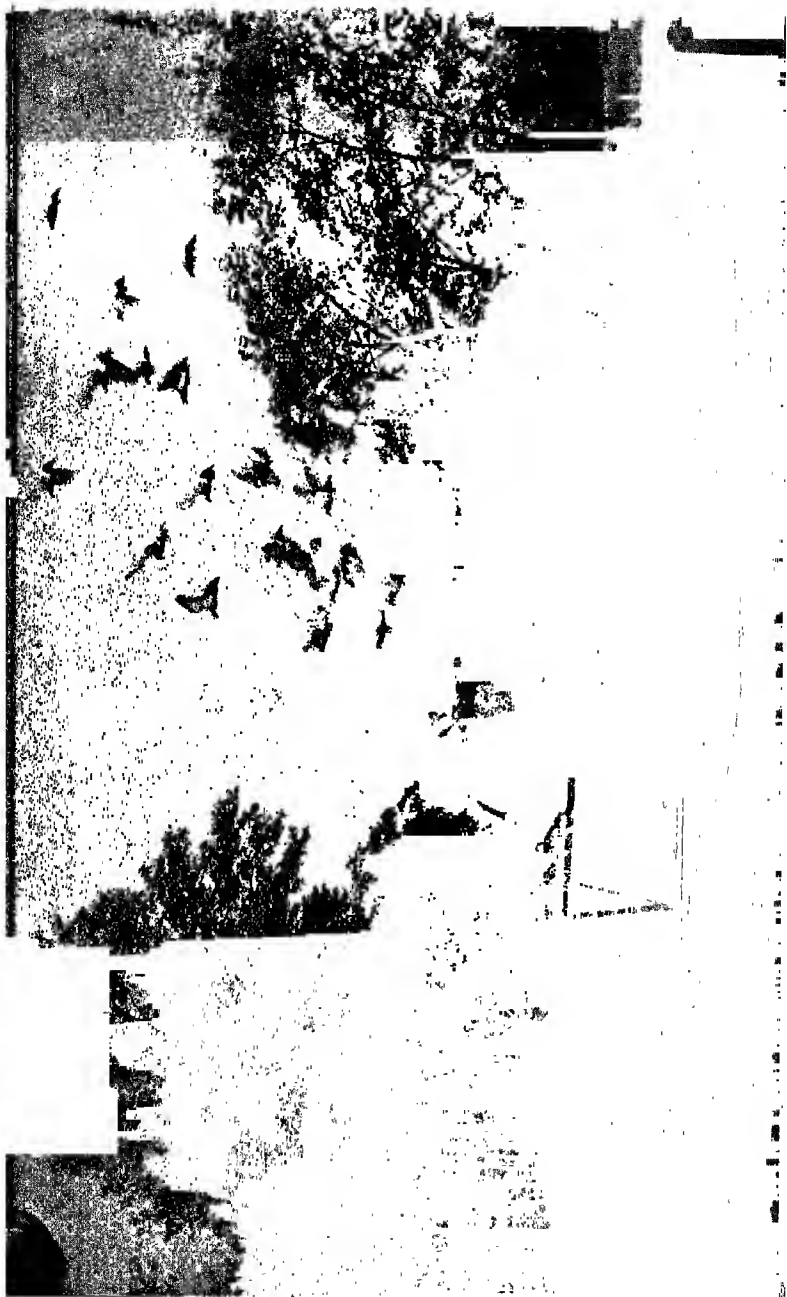
His heart leaped as he heard the sound of a car on the road below. He couldn't see the road into the hills except for a brief stretch below to the west, and he watched the curving section of road with his heart in his throat. What if, for some reason, Dad was returning unexpectedly? Dad would fight rather than lose his birds, and he wouldn't stand a chance against these two men. They might have guns. Bad as it was to lose the birds, it was better than for Dad—The car came into view below—a rattley farm truck chugging up hill and Tom was a little faint from relief.

Three more birds arrived, and as the third one came into the trap, an idea came to Tom and he wondered why he hadn't thought of it before. He might have saved all the birds, if he'd thought of it sooner. Dad would be angry at him for being so stupid.

Instead of putting down the time of arrival in his notebook, he wrote, "Robindale stealing trailer. Call police." Then as he took the bird from the trap and put it through the little door, he put his hand through with some corn in the palm, and called softly: "Topsy. Come on, Topsy, girl." Topsy was one of the old birds being kept in the trailer as a mate to one of the young homers Dad was training. Topsy's home was at the farm cote, not in this trailer, and if she were released, she would fly straight home. "Come, Topsy!" Tom called.

Standing on her nest board, Topsy looked at Tom with one bright eye and then the other, turning her head from side to side.





"Topsy! Come on, Topsy!"

The bird's wings fluttered, and she alighted on Tom's wrist, pecking at the corn.

Tom's heart thumped until his ears rang. Before Dad was through training a pigeon, it would come when called, and now Tom was thankful that Dad's birds weren't wild, like some, so they had to be caught with a net. Dimly, he heard Robindale saying, "You see that, Pete? Those birds are so tame they'll come when you call their names. Say, the more I think about things, the better I like it. We won't have no trouble getting tame birds like that into the trap when they come from the ship."

Carefully Tom took Topsy in his left hand and, his back to the men, worked very quickly, wrapping the sheet of his notebook around the bird's leg and fastening it with an elastic he'd had in his pocket. He wished he had a carrier tube for the message, and hoped the paper would not fall off in the wind of flight. His face felt like wood as he tried hard to smile. Then, slowly he turned to look at the two men.

"Oh, yes, all the old birds come when called." Tom crossed towards the live oak, the bird in his hands.

"I want to show you Topsy, because she—hey!" He let out the last with a yell, just as loud and sudden as he could shout, and at the same time flung Topsy up. "Hey!" he shrieked, to startle the bird. "Hey! Look! She got away! Hey! She got away!" He waved his arms and jumped as he yelled, to be sure Topsy would fly away fast.

"What's that on its leg?" Pete shouted, as Topsy circled upwards. "The kid's sending a message!" Then

he moved remarkably fast for a plump, soft man, seizing Robindale's right wrist. Robindale had drawn a revolver from his pocket. "You can't hit that bird with a pistol, you fool," he said. "And the noise—"

Robindale put the gun away reluctantly. Tom stood dancing with excitement. "Go on, Topsy!" he yelled to the bird, who now was streaking west towards the silver expanse of the bay. "Good old Topsy!" It was wonderful! Robindale had degraded the proud homer strain, engaging it in a criminal undertaking—and Topsy was vindicating her race. Tom yelled. "Fly home, Topsy!"

Tom suddenly was all frozen.

Robindale was advancing slowly and easily, his lips twisted in a half smile. Tom wanted to run, but he couldn't move. He stood looking up at the man's white face. This was like a dream, when someone is chasing after you and you can't move.

"You're a smart kid," Robindale said, "a little too smart." Then Tom saw the quick motion of the white hand, and yelled just before he went tumbling head over heels.

The side of his face seemed enormous; it felt strange to his tongue. The two men were busy with the truck now, and Tom lay where he had fallen. They let down the big end-gate of the truck, making an inclined platform. After tossing out some of the chicken crates, they pushed the trailer loft onto the truck. After the chicken crates were put in again and the end-gate closed, Tom could see no part of the trailer above the high wooden sides of the truck.

Pete, standing a bit away from the truck, said, "That trap on top sticks out. Better knock that off."

"Looks almost like a chicken crate, anyhow," Robindale said.

"Almost ain't good enough, is it?"

Robindale swung towards where Tom was lying. The man wasn't smiling now. There was a chalkiness about the jaw, and a small spot of color high on each cheek bone.

"Take it easy, Robbie," Pete advised.

"This kid's too smart for his age. We got to shut him up."

"Why?" The fat man wasn't excited or angry at all. "He done what he could, and he is a smart boy, at that. Leave him alone."

"But if it wasn't for him being smart, we could have waited until all the birds got back. We don't want him loose to go down and flag a car."

Tom was listening as the two men argued. Pete seemed to be the leader.

"Knock that trap off the trailer," Pete ordered. "I'll tie the boy up."

Pete lifted Tom to his feet as Robindale climbed atop the trailer in the truck and with a big wrench beat off the trap. Pete said, "I've got to tie you up, boy, but it'll only be until your dad comes back. You're not going to be a baby, are you?"

Tom shook his head. He didn't say anything, or he *might* have been a baby. "That's a boy," Pete said reassuringly. "Now, I got a piece of string in the truck—"

"Say!" Robindale exclaimed. "Say, Pete—that kid is smart! Never mind tying him up. We'll take him along."

"That's asking for misery."

Robindale's grin was wide. "Look: we can get the rest

of these birds after all! If the pigeons can find this place, thirty miles from home, they can find the trailer anywhere. We can drive across the bay into the hills, run the trailer out and wait for 'em."

The big man nudged with his toe the smashed remains of the trap which Robindale had beaten off the trailer. "No time to get a new dingus like this today, and we couldn't straighten this one out to work. Better skip it, and take what we got. The cops'll be on prowl when that pigeon gets back home with the note on its leg."

"Skip it!" Robindale laughed. "Those trained birds are worth plenty to us. We only got five of them now, and the kid said his old man was letting sixteen loose at Salinas. We'll be safe enough across the bay. The cops will be looking for a trailer, not a truckload of chickens."

Pete's ruddy face flushed a bit redder. He wasn't a man who liked to be crossed. "Those birds are no good unless you can catch 'em!" he said.

Robindale nodded, smiling. "Sure—that's where the kid comes in. He knows 'em all by name, and he can tell 'em to come eat out of his hand."

"All right," Pete agreed grudgingly.

"But I can't call those young birds!" Tom protested. His voice was muffled by the stiffness of his face, and sounded strange. "They're not trained—"

"Now you keep quiet, boy," the ruddy man said. There was still some of the flush in his face. "I've treated you decent—don't try to crowd your luck. We're not asking you what you want to do. We're really telling you."

The ruddy man drove the truck out of the hills, across Dumbarton bridge, and then turned south onto Bayshore highway. Tom wondered what would happen to him



when they waited for the birds and for Tom to get them inside without a trap. All of Dad's old birds would come at a call; but the ones being trained in the trailer loft were youngsters. They were tame enough, but it takes a long time to train a bird to come to your hand at a call, and especially when the pigeon is outside of the cote and in strange territory, and excited by a flight. Tom knew he couldn't capture those young birds, with the trap gone.

The truck's seat was lumpy, and the vehicle jolted with every little bump in the road, throwing Tom back and forth between the two men. They seemed to be going terribly fast. The highway was full of traffic on this sunny day. The truck lurched sickeningly as the ruddy man went around car after car. The engine made a great roar, and from behind came the clatter of the bouncing chicken crates and the clucking of the fowls. Tom saw the relaxed faces of the people in the oncoming traffic, and thought how peaceful and without worries they all were. Everything outside the truck seemed at peace and of another world.

As they passed the Palo Alto road, Robindale said, "You can turn off at Oregon, and go through Mayfield and out on the Page Mill Road into the hills. There's plenty of space back there where we can run out the trailer."

"Want to drive?" Pete asked testily.

"Okay; I was just suggesting," Robindale said. Then quickly, as the big man began slowing the truck down: "What's the matter?"

Pete nodded at the side mirror, said, "Copper," and shoved the brake pedal. From behind came the rising

wail of a police siren. Robindale brought his revolver into view. Tom hunched down in the seat. The truck rocked as it left the road shoulder.

"Put that away, you dope," the ruddy man growled. "Put it away, I say. Where's your brains, anyhow? I've been hitting fifty-five and sixty, and it'll be a ticket for speeding. That trailer can't be seen from the road, and them chickens will cover up any sound of the pigeons."

Robindale expelled a deep breath of relief, and slipped his weapon out of sight. "Speeding, huh? Let me handle this, Pete. I'll talk him out of a ticket."

"You keep your big mouth shut," said the ruddy man.

The truck came to a stop beside the road, and the siren died as a police car came alongside. Robindale gripped Tom's arm warningly, whispering a blood-chilling threat. It wasn't needed. There was nothing Tom dared do. He watched two officers get out of the highway patrol car. Robindale had the boy's right arm twisted behind his back, with just a suggestion of pressure to send a reminding twinge of pain through it.

"Well, officers!" Pete said genially, "I guess I was in too big a hurry!"

Without taking his eyes from the truck occupants, one of the officers said to his companion: "Hop up and take a look at the load."

"Just a few chickens for San Jose, and we're trying to hurry to get them out of the sun."

"We'll take a look," the officer said.

Tom felt Robindale's body begin a quick movement, and then stop as into view over the cab door appeared the round end of a police revolver. "Take it easy," the officer warned.

"This is it," the other cop said. "The trailer's in here with the pigeons in it."

Robindale swore. "You had to speed!" he snarled.

Pete flushed purple. "Whose smart idea was it in the first place?" he countered.

"Calm down and pile out of there," the officer said, "and quit quarreling about whose fault it is. We knew you had that pigeon trailer before we stopped you, and it wouldn't have mattered how slow you went."

"Huh?" Pete grunted, getting out. Then, standing on the road shoulder looking at the truck, he began swearing. Robindale joined in. As Tom got out and saw the reason, he wanted to dance.

From the road no part of the trailer could be seen above the high wooden sides of the truck, but from the air the loft had been visible to the keen-eyed pigeons. It was their home, and their every instinct was to go to it. Six of the birds were fluttering above the truck, trying to return home but baffled because the trap was gone. Even as Tom watched, another homer came out of the sky and fluttered about.

"That's how," said the officer. "We got a call to watch out for a stolen pigeon trailer. When we saw a half-dozen pigeons following a truck down the highway at sixty miles an hour, it was worth looking into."

"Oh, gosh!" Tom cried, beside himself. "Aren't they pretty? Aren't they beautiful!"

#### ACTIVITY

You probably have read other adventure stories in which some boy or girl has done a clever act. You may wish to tell your classmates about one of those stories.

# Nerves

by

JOHN FARRAR

"Nerves" is a short play. To enjoy it best the reading should be done in certain ways.

First, it is exceedingly important to read carefully the description of the situation (in *italic type*), in which the action takes place. Try to see a picture of the mess hall, which is the scene of action in the play, together with the furniture and objects in it. It may even help if a rough drawing of the room and its contents is made. Attention should be given to the characters in the play, their number, and any description made of them.

Second, read the conversation at the rate at which the characters would speak. Mentally act out the play, saying the words to yourself or better still, read the play aloud to someone.

Third, carefully read all supplementary notes, descriptions and directions given throughout the play (in *italic type*).

## CHARACTERS

TED HILL, Captain, U. S. Air Service

BOB THATCH

JACK COATES

BOB LANGSTON

} First-Lieutenants

ARTHUR GREEN

PAUL OVERMAN

FRANK SMITH

} Second-Lieutenants

ROOK, a mess attendant

AN ORDERLY

TIME: September, 1918

PLACE: *The mess hall of Tiger Squadron. There is a fireplace at one side with a box for wood near it. The room opens to a kitchen on one side by a sort of counter where dishes are handed across. There are benches and one long oblong table. A small round table with rustic chairs grouped about is in one corner. There are green branches on the walls; the squadron insignia—a crouching tiger, flying coats, helmets, sweaters, mufflers, and gloves are piled in confusion on a bench near one of the doors. There are two doors, one leading to the airdrome, one to the barracks. Dirty dishes from lunch still clutter the table, and there are a few places set for latecomers. At the curtain JACK COATES is walking up and down in front of the fire. His hands with their nervous quickness show his agitation. ROOK is clearing away dishes. There is the muffled sound of guns in the distance.*

JACK. Good lunch today, Rook.

ROOK. We've found a new place to buy fresh vegetables, sir.

JACK. How many ships are still out on patrol?

ROOK. *(Crawling under the counter into the kitchen.)*  
Five, sir.

*(JACK goes to the door and looks out, slams it, and stands in front of the fire, his back to it, moodily.)*

OVERMAN. *(Sticking his head through the door from barracks.)* Has the patrol come in yet, Jack?

JACK. *(A little morosely.)* Not yet.

*(OVERMAN starts to close the door, then opens it, and comes forward, a little embarrassed.)*

OVERMAN. Say, Jack, you didn't go out on patrol again today.

JACK. (*Turning away from him toward the fire.*) No! Doctor said I'd better stay on the ground for a couple of days more. Something has gone wrong with my heart, I guess.

OVERMAN. (*Coming closer.*) Heart?

JACK. (*Turning, with a tight sound in his voice.*) Hang it all, Paul! You know as well as I do what it is. It's nerves!

OVERMAN. (*Affectionately.*) See here, Jack, you know I don't think you're funking it, don't you?

JACK. Maybe *you* don't.

OVERMAN. I don't know about the others; but what's the use of pretending it's your heart? You don't fool anyone and it makes you worse, yourself. There are only two ways to get rid of a case of nerves, Jack, and you know what they are—a vacation, or taking the bull by the horns and going out in spite of how you feel. You will have to do one or the other.

JACK. (*Kicking the fire viciously.*) I can't ask for leave now! We're too darn short of men!

OVERMAN. (*Looking at him a little steadily.*) No, I don't think you can. (*Goes into barracks.*)

(*JACK throws himself full length on a chair in front of the fire. ROOK comes in again with a rag and wipes off table. Goes to door and looks out on airdrome.*)

ROOK. (*Going to door.*) Nothing in sight, yet. Good flying weather, sir.

ROOK. (*A little searchingly for a mess attendant.*) You didn't go out on patrol this morning, Lieutenant Coates?

JACK. (*After pause, a little weakly.*) Doctor's orders. (*Pause.*) Did you happen to hear who went in my place?

ROOK. Lieutenant Thatch, sir.

JACK. (*Up again from chair, and toward door, but does not open it.*) Lieutenant Thatch, eh? So Bob went. What time is it, Rook? They ought to have been back long ago, oughtn't they?

ROOK. (*Looking at his wrist watch.*) Yes, sir, it's very nearly three.

JACK. (*Going to the table and nervously buttering a piece of bread.*) They must be having a hot time!

ROOK. Very likely, sir, the guns have been going all morning. Maybe there's an attack on.

JACK. Perhaps. (*He eats the bread in nervous little gulps.*)

(BOB LANGSTON comes in from airdrome. He has a musette bag and a suitcase. He is embarrassed and evidently a stranger. He puts down suitcase. Rook salutes. He returns it. JACK turns and stares at him a moment a little awkwardly.)

LANGSTON. (*Saluting.*) Is this the mess hall of Tiger Squadron, sir?

JACK. (*Dropping his languor, comes forward with gay, forced politeness.*) Yes; is there anything we can do for you, Lieutenant? My name's Coates.

LANGSTON. (*Shakes hands.*) Mine's Langston. I came down this morning from the depot at Colombey to be attached to the Squadron.

JACK. Fine stuff! Sorry there aren't more people here to welcome you. There's a bunch playing cards and some more on patrol. Have you reported to the C. O.?

LANGSTON. Yes. He sent me down here to get something to eat. Is it too late?

JACK. (*Setting plates before him.*) Not by a long sight! (*Yells into kitchen.*) Cook, one dinner for a hungry man, done to a turn, coming. Here, sit down. Bread, butter, milk—do you want coffee or tea?

LANGSTON. Tea, thanks.

JACK. Rook, the lieutenant wants tea.

ROOK. Right. (*Crawls under counter into kitchen.*)

LANGSTON. (*Buttering his bread.*) It's good to get here at last.

JACK. (*Laughing.*) Been a long time training?

LANGSTON. (*Chuckling.*) That's a joke, isn't it? Kelly Field, Princeton; Mt. Clemens; Instructor at Mineola; two weeks at St. Maixent, Tours, Issoudun, Colombey. But that's over. Now I'll get a chance to do something.

JACK. You're right you will! Are they sending down many more pilots from Colombey?

LANGSTON. Don't think so. Why?

JACK. We need 'em. Thought some of us might get a leave some time.

LANGSTON. (*Surprised.*) Bad time for a leave, isn't it? With this all-American drive in the air?

JACK. (*Shamefaced.*) Guess it is! We always get to thinking of leaves, though, you know. I've been in the Squadron two months now. (*Rook has been serving LANGSTON for some time.*) Here, have some more jam. So you're anxious to get to work? Well, you'll get a chance here. This is some squadron, boy. We've brought down more enemies than any other squadron in the group, and some day maybe we'll head the army list.



LANGSTON. Doesn't that seem like an awful reputation to live up to?

JACK. (*Softly, and inwardly squirming.*) Yes, does, rather.

LANGSTON. Nice bunch of officers? I thought the C. O. was a prince.

JACK. He is, absolutely. We're just like a happy little family here. There's Ted Hill, he's from Harvard, you'll remember he played quarter on the 1916 team.

LANGSTON. Sure thing! He had more drive than all the rest of the team put together.

JACK. More drive and—more everything. (*Proudly and a little wistfully.*) I roomed with him at college, and I knew him well at prep school. He was always just the same—clearheaded, a wonderful leader, as brave as a lion—it's just the same here. He's got five enemy planes to his credit. I've always wished I were—more like him. (*Laughing but serious.*) He was one of my schoolboy heroes. You know.

LANGSTON. It's wonderful to have a man like that around, isn't it? He must be an inspiration.

JACK. Yes. (*Pause.*) Then there's Thatch—he's a corker, too—you'll like him. He's one of the most generous men in the world. He went out on patrol for me this morning. Doctor said something was wrong with my heart, I guess—said I'd better stay on the ground.

LANGSTON. (*Eying him a little keenly.*) Must be a nuisance when you want to be doing things. I'm sorry.

JACK. There aren't any patrols this afternoon or I suppose I'd be going out on one of those. (*Going to door nervously.*) The morning patrol ought to be in any minute now.

ROOK. (*Offering a plate of bread.*) Got everything you want, sir? Sorry there isn't any pudding left.

LANGSTON. Best mess I've ever eaten at, buddy. Can I have some more water? (*Rook goes to get water.*)

JACK. Here comes Hill. (*Returns to his old place by the fire.*)

(*Enter HILL.*)

HILL. (*Hot, tired, peeling off his wrappings.*) Got anything to eat? Lord, was that a morning! (*Sees LANGSTON.*) Oh, hello! Are you a new man? Why didn't you introduce us, Jack? (*Ironically.*) Hill's my name.

LANGSTON. Langston's mine, Captain. Wonderful mess you've got here.

HILL. You bet it is—eh, Rook? I'm hungry as a bear. Pass me the meat, will you? (*Helps himself and starts to eat hastily. There is an awkward silence till SMITH and GREEN come in. They unwrap themselves and come quickly to table.*) New pilot, boys, Langston,—is that right? Frank Smith, Arthur Green. (*They shake hands.*) We'll need some more potatoes, Rook, and plenty of hot coffee.

GREEN. (*Digging into the food.*) Just come down from Colombey, Langston?

LANGSTON. Yes, this morning.

JACK. (*Trying to talk to HILL.*) Where's Bob, Ted? Is he talking to his mechanic?

SMITH. Didn't Bob come back? (*There is a sudden pause in the eating.*)

JACK. (*With sudden apprehensiveness.*) No! (*Rising.*) Where is he?

HILL. (*Looking at LANGSTON a little uneasily.*) Why,

why, we thought he'd come back. (*All are more or less embarrassed.*) He's—he's probably—probably gone on a visit to some other airdrome—or—or, he'll probably be in any minute.

JACK. (*Violently agitated, appeals to HILL.*) But, Ted—(*HILL jerks his head meaningly toward newcomer.*) Oh—I see—yes—he'll probably be in any minute. (*There is quite a silence now. They are all agitated but trying not to show it.*)

SMITH. (*Doing his best to be nice.*) Hope you're going to like it here, Langston.

LANGSTON. (*Rising.*) Oh, I'm sure I am. Corking airdrome, isn't it?

GREEN. Certainly is, and we've only been here three weeks. We were farther down the line before.

JACK. (*Beside himself.*) Ted, Bob went out for me this morning, you know.

HILL. (*Almost viciously.*) Yes, Jack, *we know!*  
(*Enter ORDERLY.*)

ORDERLY. (*Saluting.*) Captain Hill!

HILL. Here!

ORDERLY. (*Handing him a paper.*) List for morning patrol, sir.

(*Salutes and exit.*)

HILL (*After looking it over.*) Smith, Green, Overman, Coates, Langston—Langston, your baptism with this outfit. Someone tell Overman. Will you, Art? (*SMITH goes to barracks.*) Jack, how about it, want to go out in the morning? (*There is silence as JACK waits to reply, hesitating weakly.*) Well, I'll take the morning patrol for you. (*Bitterly.*) Better get a new heart, Jack.

JACK. (*Desperately.*) Ted, Ted, please let me—

HILL (*With crisp finality.*) That's all. Smith, Green, Overman, Langston, and I take the morning patrol! (*HILL takes up a book. JACK walks to fireplace alone.*)

LANGSTON. (*Embarrassed by the whole affair.*) I wonder if someone will show me where I'm going to bunk. I'd like to join that card game in the barracks.

GREEN. (*Jumping to his feet in relief.*) Bet your life! Here, give me one of those bags. This way! (*GREEN exits.*)

HILL. (*Looking up from his book and speaking to LANGSTON who remains.*) So you think you're going to like the Tigers, do you, Langston? You know we have a good many traditions to live up to.

LANGSTON. Yes, I know; Lieutenant Coates has been telling me about them.

HILL. (*With a touch of irony.*) So Coates has been telling you, has he? Did he tell you that a pilot's supposed to get a Hun before he's been here three months, or he's a dud?

LANGSTON. No, he didn't tell me. *That's* some rule.

HILL. That's not a rule; it's a tradition. Rules, Langston, are broken more often in this squadron than traditions. That tradition has only been broken once. Well, go to it, boy! (*LANGSTON starts to leave. He meets SMITH and GREEN returning.*)

GREEN. (*Opening the door and stepping aside for LANGSTON.*) After you, old fellow. (*SMITH and GREEN enter again.*)

JACK. (*Having overheard the conversation between LANGSTON and HILL, turns fiercely to HILL.*) Ted, where's Bob?

HILL. (*Gathering up his flying clothes to go out.*) I don't know.

JACK. Well, I know you don't know where he is, Ted, but what happened? (HILL *shrugs his shoulders.*) Frank, what happened?

SMITH. We were protecting a photographic and reconnaissance mission, and after we got through protecting we kept on patrolling—all five of us. About two-thirty we met a red-nosed Fokker coming from the direction of the lines. It was over Pont-'a-Mousson. Ted's motor was so bad he couldn't climb, but he took position under its tail and fired a few shots.

HILL. My gun jammed then.

SMITH. So he zoomed and I attacked. My gun jammed, then Ted attacked again from a position behind the Fokker. He fired a good many shots.

HILL. About seventy, I think.

SMITH. The Fokker went down into a vrille and crashed. When we pulled out of that we saw a patrol of eight enemy machines coming down on Bob and Arthur. We attacked to defend them. Bob sent one machine down in flames—and then Ted gave the signal to pull out. I "dove," and the next thing I knew we were getting into formation, and there were only four of us. The enemy patrol hadn't followed, but when we turned and went back to the lines, we couldn't see anything of Bob. That's what took us so long.

JACK. And nobody saw what happened to him?

HILL. No! I don't wonder you feel bad about him.

JACK. (*Snatches up his flying clothes and is getting into them.*) Ted, I'm ashamed of my nerves! I know you've lost your respect for me. I don't want that, Ted.

Oh, you don't know what it is, Ted. You've all been so kind about it! Why didn't you say something—why didn't you call me a coward, instead of wanting to, and hinting, and distrusting, and keeping your mouths shut, and looking, looking, looking at me! And now—Bob! Why didn't you make me go up today, Ted? The doctor knew it, too, but he was kind. Kind! He was afraid to tell me what he thought of me. Heart! Sitting here by the fire—waiting, waiting—wondering if I'd ever have the nerve to go out. I know too well that I'm the only one that's been here three months without getting a Hun, and it's broken your tradition. I'll get one now, though! I'm going out to find Bob! (*Dashes out.*)

GREEN. (*Going to door and yelling after him.*) Jack, Jack, don't be a fool! Bob'll come back! (*Turns.*) We can't let him go. He's no good by himself, like that.

HILL. It's just a little temperament. Let him alone. I don't think he'll go. He's excited now, but when it comes to getting into the ship—that'll calm him down all right. I never saw a man change so. I thought I knew Jack pretty well before. (*Pause.*) It's a shame about Bob.

GREEN. Have a game of rummy, Smith?

SMITH. Sure. (*Starts to get cards.*) Here, I'll get the cards.

GREEN. Thanks.

SMITH. There they are. Shuffle, will you? (*They sit at the table in the corner.*) Want to play, Ted?

HILL. No, I'm going to read. (*Picks up his book, sits by fire and turns pages absently.*)

SMITH. Oh, come on, Ted, it'll do you good!

HILL. No, thanks!

(SMITH and GREEN play. ROOK comes in to clear off dishes. Makes a particularly high and clumsy stack of them.)

GREEN. Ah, you're saving hearts?

SMITH. How's cook disguising the corn willie tonight?

ROOK. Beans, tonight, sir—and spinach!

SMITH. Excellent! Especially the spinach!

GREEN. Is that a motor I hear, Frank?

SMITH. No. Draw that jack, will you?

GREEN. Precisely what I won't do! There! Luck is with me! (*Puts down four of a kind.*)

SMITH. Excellent game—rummy—

(ROOK drops china with terrible clatter. There is a general manifestation of raw nerves on the part of all. GREEN drops some of his cards. HILL jumps up.)

HILL. Rook!

ROOK. I'm sorry, sir!

HILL. (*Ashamed of his nervousness.*) That's all right. Better luck next time. (*Sits down.*)

SMITH. There you are, I told you rummy was a good game. I never enjoy anything better than winning.

GREEN. (*As SMITH puts down his cards. They have played one game silently.*) Got me that time. (*Rises.*) Excuse me just a second. (*Goes to door and looks out.*) Say, there goes Coates. I'm going after him. It's madness to let him go out alone. Come on, Art!

HILL. Close the door and sit down. When men are as scarce as they are now, one with a case of nerves has got to work out his own problem. That boy's got to face his problem alone.

SMITH. (*As he sits down, a little rebelliously.*) Ted—I—

HILL. (*Firm.*) Smith, that's all!

(*There is an awkward pause.*)

OVERMAN. (*Sticking his head through door from barracks.*) Want to join our game?

GREEN. No, thanks, just started one of our own.

OVERMAN. Where's Bob?

GREEN. Hasn't come in yet.

OVERMAN. (*Coming in and closing door quietly.*) Oh! Didn't come back?

GREEN. No. We don't know just what happened. Got into a little circus and he wasn't there when we came out of it.

OVERMAN. It's getting pretty late, too.

SMITH. Yes. (*Another pause.*)

OVERMAN. Poor old Jack'll feel pretty bad about this. Bob went out in his place. Anybody'd feel rotten—and in his condition—what a mess to be in. (*Comes over to HILL.*) Captain Hill?

HILL. Well, Overman?

OVERMAN. I wanted to speak to you about this—sickness—of Jack's.

HILL. Yes?

(*The others stop playing to listen.*)

OVERMAN. Of course, this business about his heart is all bunk—we all know that—he's just got to thinking about things too much, that's all—lost his confidence—and, just for a while—his nerve—he's tired out—I know how it is. I got to feeling that way once at training school—I couldn't bear to look at a machine, or—or hear one. Don't you think, sir, if we'd have a little more confidence in him, it might help?

HILL. Jack has gone out to find Bob, Overman.



OVERMAN. You don't mean alone, Captain?

HILL. Alone!

OVERMAN. But—he— Let me go out, too, won't you? I spoke to him this morning about it and told him I thought he had a case of nerves and that the only way to cure it was—*why* did I speak to him about it—that's why he has gone!

HILL. That's all right, Overman. It wasn't that—he felt bad about Bob, that was all.

OVERMAN. Well, when he comes back, then you'll speak to the others and—perhaps you could give him a vacation—at least try to help him. You know, sir, I've got to know Jack very well since he came to the Squadron.

HILL. He roomed with me all through college, Overman. I know you mean well, but—I'll take care of Jack!

LANGSTON. (*Sticking his head through door.*) Hi, Overman, what's the matter with you? We're wasting our sweet lives away here. Get a hustle on, will you?

HILL. Better go back to your game, Overman.

OVERMAN. (*A little stiffly, saluting.*) Very well, sir. (*To LANGSTON.*) All right. Coming. (*Exit.*)

(*There is a sound of laughter and talk in the other room. A quartette sings, "There's a long, long trail."—The game goes on during the music. The song bothers*

HILL. *He tosses his book away and listens moodily.*)

SMITH. (*Counting points.*) Sixty-nine!

GREEN. That makes game, too. Let's start another. (*They play.*)

ROOK. (*Comes in with silver for dinner table and begins setting it quietly.*) Nice afternoon, sir.

HILL. (*Not hearing.*) What's that, Rook?

ROOK. It's a nice afternoon, sir.

HILL. Yes, it is, Rook. How are you getting along in the Squadron now?

ROOK. (*Embarrassed.*) Good enough, sir.

HILL. I'm glad.

ROOK. There is—there is something I'd—I'd like to—

HILL. Go ahead, old fellow, out with it!

ROOK. Well, I heard that there was going to be one or two men chosen from each squadron, sir, for flying training—you know, to be sent to a school, and afterward maybe commissioned and I hope you don't think I was fresh to say anything about it, but I enlisted because I thought I might get a chance to fly.

HILL. Good, Rook, you'd make a good man! How old are you?

ROOK. Nineteen, sir.

HILL. Hm, where'd you go to school?

ROOK. Had four years at high school, sir, and I would have gone to college this year, if it hadn't been for enlisting—Brown University, sir.

HILL. Good! Ever driven an automobile?

ROOK. Yes, sir, ever since I was sixteen.

HILL. (*Thinks a moment.* Rook goes on setting table.) You're quite sure you want to fly?

ROOK. Yes, sir, I've always wanted to.

HILL. I know; so many people do. You're pretty young, Rook.

ROOK. Not too young for flying, sir; it takes them young.

HILL. I know—that's the worst of it—and it—it—yes, it takes them young. Well, I'm fond of you, Rook,

and you're good officer-material. I'll think it over—but flying's a queer game, Rook, and you're awfully young.

ROOK. You don't think I'd be afraid, sir?

HILL. (*Hastily.*) Of course not, Rook! You're not that kind, but—flying's a queer game. I'll think it over and please speak to me about it again. Would you like to get us some tea? It's been a bad day and we're tired.

ROOK. Right away, sir. (*Exit.*)

GREEN. Rook wouldn't be bad at all, Ted. Say, I'm glad you thought of the tea. I feel rotten.

OVERMAN. (*Entering from barracks.*) Well, Langston hasn't got anything left but his uniform, a shirt, and enough money to pay a week's mess bill! Says he never played poker before, and we believe him.

—LANGSTON. (*Throwing himself on a bench.*) You can kid all you like; but mark my words, I'm going to play again. Babes in the woods sometimes surprise the world as they come out of the leaves. Wait and watch, my dear fellow, maybe you'll be asking me to pay your mess bill next time.

OVERMAN. Maybe—do your worst, old man.

SMITH. Only once more, Art. The gods gave you luck at the cradle.

GREEN. There's more than luck in my playing—it's intelligence.

OVERMAN. Oh, oh—at him again, Frank. I wouldn't let a man like that trim me again.

LANGSTON. Captain Hill?

HILL. Well, Langston?

LANGSTON. If I'm going out tomorrow morning, I'd better go over a map of the sector, hadn't I? I'm a little slow when it comes to getting my bearings.

HILL. (*Rising.*) Good, Langston, you're right. Should have thought of that myself. (*Goes to a side shelf of some sort and gets a map mounted on wood, about a foot and a half square.*)

GREEN. (*Putting down all his cards.*) Voila!

SMITH. You certainly are trimming me.

HILL. (*Sits down. LANGSTON comes and looks over his shoulder.*) Here you are! Take this and go over it carefully for terrain. Later on, after you've got an idea of that, I'll send you down to the operations officer. He'll give you some fresh dope on trench positions and so forth. It's simple enough, though, Langston. All you have to do is to stick to formation and we'll bring you back O.K.

LANGSTON. (*Laughing.*) It's a little safer to know which direction your own lines are in, though, in case something does happen. I'd much rather have lunch tomorrow on *this* side of the lines. I think lunch at this barracks might be healthier.

HILL. (*Softly.*) Yes! (*Louder.*) All right—go to it. (*Rook has brought in tea and is serving HILL.*) Good for you, Rook, that's the boy!

ROOK. Sugar, sir?

HILL. (*Helping himself.*) Thanks.

ROOK. Usual number for supper, sir?

HILL. (*Almost fiercely.*) Yes! They may be back any minute, Rook! (*Rook serves the rest.*)

GREEN. Would you mind getting me some hot water, Rook? (*Door from airdrome opens. BOB THATCH enters, a patch over his eye. They crowd around him with cries of "Bob," "Good old Bob," "Where have you been, Bob?"*)



THATCH. One at a time, one at a time! Rook, get me a cup of hot tea, will you?

HILL. You gave us a fright, Bob; where have you been?

THATCH. I know. I tried to get you by telephone—but H.Q. had all the wires hot with some dope or other and I couldn't get you.

GREEN. Where did you go? We saw you shoot down that enemy plane. Fine work, Bob. When we pulled out you were just *nil*—gone completely.

THATCH. (*Sitting down.*) Well, you remember that group of eight machines that attacked us.

SMITH. Oh, *oui*! One does remember things like that, Bob.

THATCH. Well, when you gave the signal, Ted, I didn't pull out as quickly as I might have. That German had done something or other to one of the controls. Luckily, however, I managed to keep going and decided to pull out, too, but up hopped two enemy ships and onto my tail. Little Bobby made a dive. I didn't dare do much fighting, though I did get in position on one of them and let go a few bursts. Nothing happened to them—worse luck—but one of the Huns put a bullet through my tank.

OVERMAN. Wow!

THATCH. I said a few things more picturesque than that, believe me! Here's where the good fairy comes into the story—the tank didn't explode! I landed in a field about thirty kilometers north of here. The machine nosed over and is a mess. My eye was scratched—otherwise, behold you Bob, as good as ever!

HILL. And with one more enemy to his credit.

THATCH. Oh, that'll have to be verified.

GREEN. How'd you get back?

THATCH. (*Laughing.*) Thereby hangs a tale. Two American doughboys thought I was something else than what I was—maybe they took me for a Boche—it's about time our infantry learned to know an American machine when they see one. At any rate they didn't give me a very cordial reception!

OVERMAN. I can just see you, Bob, bleeding like a stuck pig and trying to impress the rank and file that an aviator's really an officer.

THATCH. Believe me, I did, if an officer's measured by his ability to use language properly and with sufficient strength. At any rate, the colonel of the their regiment

sent me down in a sidecar after I'd gone over the whole mess with his Intelligence Officer. By the way, one of the two machines was a new monoplane. At least I've never seen it before.

HILL. Really! Has it got anything?

THATCH. Mean, I should say—speedy, and climbs like a good fellow. That's the one that got me, I think.

HILL. Watch out, boys. They spring a new one every minute!

THATCH. I told the C. O. about it. Where's Jack? Is he feeling any better? (*Rook gives tea.*) Thanks, Rook. Milk, please.

GREEN. (*Embarrassed.*) Jack's gone out!

THATCH. What do you mean?

HILL. When he knew that you didn't come back, he felt pretty bad and went out to find you.

THATCH. That's foolishness—and with his heart?

HILL. Heart! It was a clear case of nerves!

THATCH. Well, we all get a case of nerves at one time or another, don't we?

HILL. (*Coldly.*) Perhaps.

THATCH. It was absurd to let him go. I'm going to find him.

HILL. (*Gripping him by the shoulders and sitting him down.*) No you're not! Drink your tea!

(*The ORDERLY enters and, without speaking, hands HILL a paper. Leaves, saluting.*)

GREEN. Anything special, sir?

HILL. They're pulling off a little attack tomorrow. There'll be extra patrols, and some special stuff.

OVERMAN. Ground-strafting?

HILL. Yes, Overman. Have we plenty of bombs?

OVERMAN. Plenty. I'll go out and see about them now. (*Exit.*)

HILL. Right and it's barely possible that they may have to use us to do some liaison. Pray Heaven the infantry haven't used all their ground signals to wipe their shoes on!

SMITH. Can I do ground-strafting, Ted?

HILL. I'll see the C. O. Thanks, Frank. Now, I think the four of you might see the operations officer before supper. Show Langston the way, will you?

(SMITH, GREEN and LANGSTON exit. ROOK is bringing in the bread, butter, and jam for supper.)

THATCH. (*A little angry.*) Ted, I don't think you've been quite fair to Jack lately.

HILL. Why not, Bob? I know him better than any of you. I think I know how to manage him!

THATCH. That's where you're wrong, Ted. You know you've changed toward Jack since he's had this bad case of nerves. You treat him as though you thought he was a coward. He's not, and you know it. It's the war that's got him—and flying. He is afraid that he'll funk if he goes up and that fear makes him funk. He worships you, Ted, just as he did all through college. Why don't you try to understand what he is going through?

HILL. I always took Jack for granted during our college days. I was the strong one, the leader, and Jack was just the opposite so we got along fine together.

THATCH. Yes, but did you ever try to understand him? Jack has more imagination than you or I or the whole lot of us have. He has his weaknesses, too, and right now he is just plain scared silly. Why don't you try to build up his courage instead of making things



so tough on him. I'll bet Jack's faith in you has built up your ego plenty of times. Why don't you do the same for him now?

HILL. Well, maybe you're right; but I've never funkcd a game yet.

THATCH. No, you haven't funkcd a game. You haven't funkcd physically; but you're funkcd a friendship now, and that's more important. The more imagination, the more fear, Ted; and the greater the man that overcomes it! If you'd been a *man*, Ted, you'd have seen what was the matter with Jack—and you'd have helped him, instead of letting your miserable, stupid thoughts show all over you and torture him. That's what it was—torture. How little understanding the strong have of the weak! I think, Ted, that you were pretty hard on Jack.

HILL. I think perhaps I was, Bob.

(OVERMAN and LANGSTON *rush in, breathless.*)

OVERMAN. (*Rushing in.*) Captain Hill?

HILL. Yes, Overman?

OVERMAN. Lieutenant Coates just brought down a German back of the airdome. It was cracking! The Boche was shot through the heart, and there were plenty of bullets in the fuselage. Magnificent shooting! Simply magnificent!

THATCH. Where is Jack now?

OVERMAN. Frank and Art are bringing him in. He's as pale as a sheet. Seems to be in pretty bad shape.

HILL. (*Strained out of his calm.*) What's wrong with him?

OVERMAN. I don't know, but he looks like a ghost,

ROOK. What can I do, sir?

OVERMAN. Get a doctor, quick!

LANGSTON. (*Throwing open the door.*) Here they come!

(*Enter COATES, SMITH, and GREEN. COATES is very pale, muddy, and disheveled.*)

THATCH. Sit down here, old boy, by the stove. Get some whiskey and hot water, will you, Paul?

JACK. (*Sitting down heavily, waves tea aside.*) Well, I did it at last. Good fight, too! That Hun was some boy. So you came back, Bob?

THATCH. Bet your life, Jack, safe and sound.

LANGSTON. (*Boyishly.*) Tell us all about it, Lieutenant Coates.

JACK. Oh—(*Winces as if in terrible pain and his hand drops from his chest.*) I—I'm sorry—it's foolish to—some other time, Langston. Ted, you don't think I'm—

HILL. (*Almost broken.*) Jack—I—don't know what to say. I'm proud, so proud of you.

JACK. (*Winching again and sinking lower.*) Ah—! (*Laughing.*) You know for a while I thought you were going to disown me, Ted!

HILL. (*Bending over him.*) Don't—Jack. (*Looking up quickly.*) Does it hurt much, Jack?

JACK. (*Grabbing his hand and in terrible pain.*) Ted! (*Laughing.*) Hurt? What could hurt—Ted, I—do you think—I—

HILL. (*Motions the others away.*) Jack, I think you were wonderful!

JACK. You *do* understand now, don't you, Ted?

HILL. Yes, Jack, I understand. (*As COATES winces.*) I was such a fool not to understand before.

JACK. You were always just right, always the best and bravest. (*He groans.*) Ted, I'm so happy!

HILL. Is there any way I can—can tell you, Jack, how much I want you to—to forgive me, how much I care?

JACK. You care! That's all—that's plenty. (*Again the pain. Laughing.*) Say, Ted, remember the room with the yellow curtains and the books I used to buy that you thought were silly?

HILL. Please, Jack, nothing was silly!

JACK. Oh yes it was, all silly—till now—now, Ted! (*He groans again.*) It was a bully good fight.

HILL. (*Taking his hand.*) Yes, Jack, glorious!

JACK. The good old scraps we had, Ted; and evenings by the fire, and house parties at home. (*HILL turns away. JACK becomes excited.*) There he comes! See him! See him! That Boche! He's shooting. I'll get him. Stop trembling, stop trembling! There he comes! Steady, steady. I'll get him! I'll get him!

HILL. Brace up, Jack. Don't look like that.

JACK. Ted — I'm — afraid — I won't — be — able to — go — on — morning patrol.

(*He becomes unconscious. TED bends over quickly, his face hidden in one arm.*)

*Curtain*

### ACTIVITIES

1. As you read the play, which character could you picture best? Which one did you admire most?
2. In the first part of the play did you think Jack was cowardly? If so, at what point did you change your mind?
3. In what ways did the author convey to you the sadness felt when the men thought Bob had been killed?

## Favorite Poems

Four well-liked poems are presented here. As you read them, say the words to yourself or, if possible, read the poems aloud. Do not hurry as you read.

### SEA FEVER

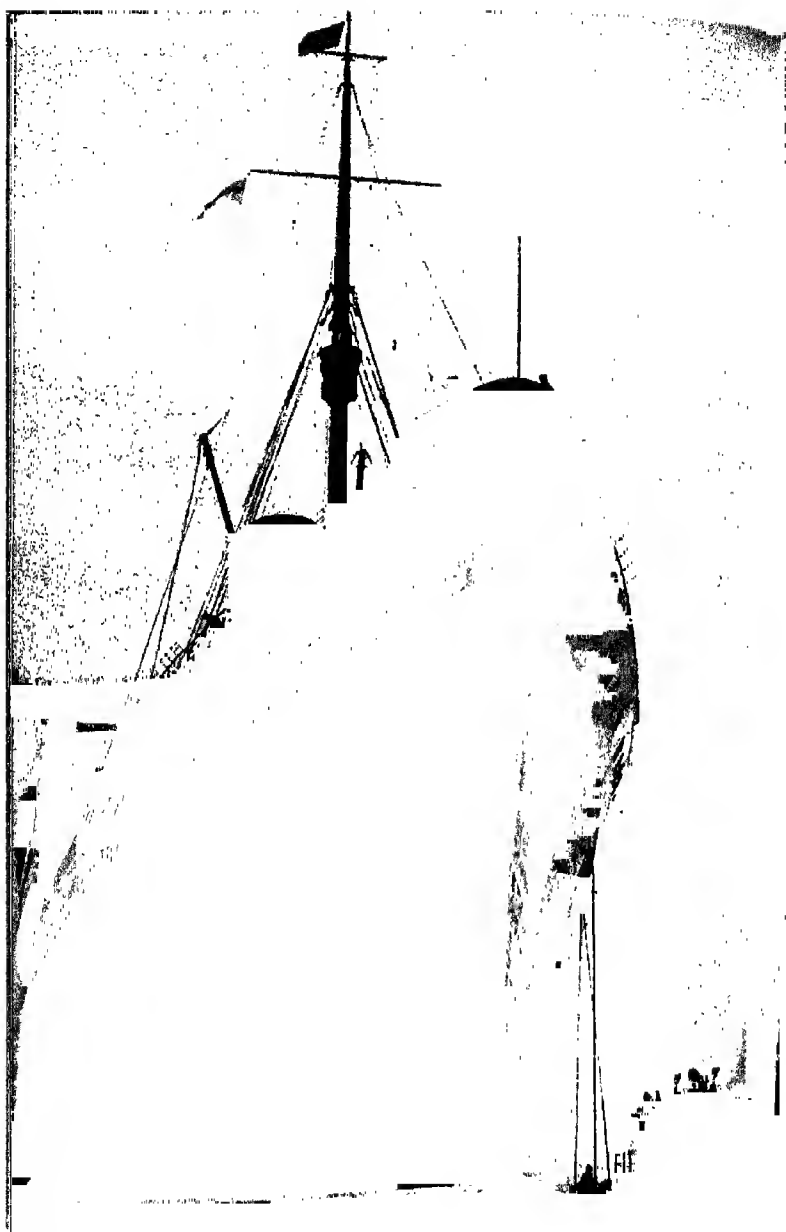
I must go down to the seas again, to the lonely sea  
and the sky,  
And all I ask is a tall ship and a star to steer her by;  
And the wheel's kick and the wind's song and the white  
sail's shaking,  
And a gray mist on the sea's face and a gray dawn  
breaking.

I must go down to the seas again, for the call of the  
running tide  
Is a wild call and a clear call that may not be denied;  
And all I ask is a windy day with the white clouds  
flying,  
And the flung spray and the blown spume and the sea  
gulls crying.

I must go down to the seas again, to the vagrant gypsy  
life,  
To the gull's way and the whale's way where the wind's  
like a whetted knife;  
And all I ask is a merry yarn from a laughing fellow  
rover,  
And quiet sleep and a sweet dream when the long trick's  
over.

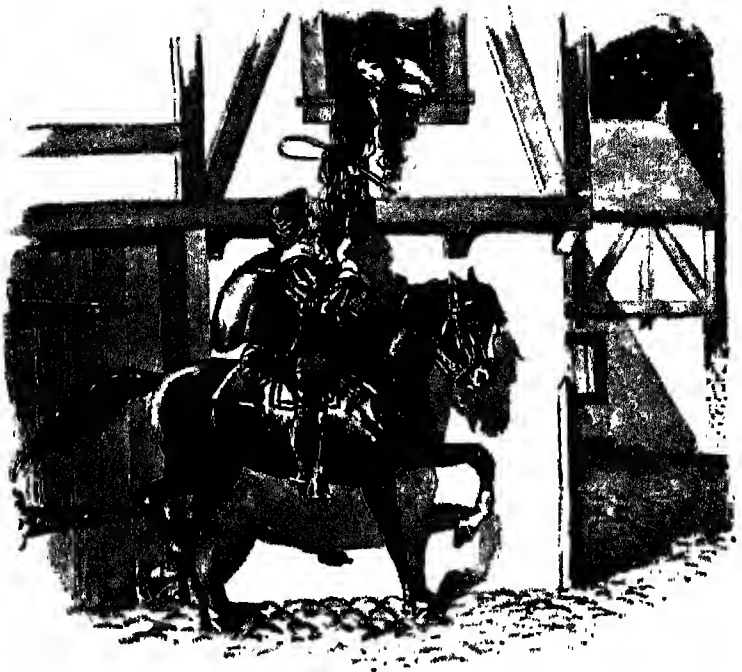
—John Masefield





Majority of the

entirely



## THE HIGHWAYMAN

This poem tells an interesting story.

### *Part One*

The wind was a torrent of darkness among the gusty  
trees,  
The moon was a ghostly galleon tossed upon cloudy  
seas,  
The road was a ribbon of moonlight over the purple  
moor,  
And the highwayman came riding—  
Riding—riding—  
The highwayman came riding, up to the old inn-door.

He'd a French cocked-hat on his forehead, a bunch of  
lace at his chin,  
A coat of the claret velvet, and breeches of brown doe-  
skin;  
They fitted with never a wrinkle: his boots were up to  
the thigh!  
And he rode with a jewelled twinkle,  
His pistol butts a-twinkle,  
His rapier hilt a-twinkle, under the jewelled sky.

Over the cobbles he clattered and clashed in the dark  
inn-yard,  
And he tapped with his whip on the shutters, but all was  
locked and barred;  
He whistled a tune to the window, and who should be  
waiting there  
But the landlord's black-eyed daughter,  
Bess, the landlord's daughter,  
Plaiting a dark red love-knot into her long black hair.

And dark in the dark old inn-yard a stable wicket  
creaked  
Where Tim the ostler listened; his face was white and  
peaked;  
His eyes were hollows of madness, his hair like mouldy  
hay,  
But he loved the landlord's daughter,  
The landlord's red-lipped daughter,  
Dumb as a dog he listened, and he heard the robber  
say—



"One kiss, my bonny sweetheart, I'm after a prize  
tonight,  
But I shall be back with the yellow gold before the  
morning light;  
Yet, if they press me sharply, and harry me through the  
day,  
Then look for me by moonlight,  
Watch for me by moonlight,  
I'll come to thee by moonlight, though hell should bar  
the way."

He rose upright in the stirrups; he scarce could reach  
her hand,  
But she loosened her hair i' the casement! His face  
burnt like a brand  
As the black cascade of perfume came tumbling over  
his breast;  
And he kissed its waves in the moonlight,  
(Oh, sweet black waves in the moonlight!)  
Then he tugged at his rein in the moonlight, and galloped  
away to the West.

### *Part Two*

He did not come in the dawning; he did not come at  
noon;  
And out o' the tawny sunset, before the rise o' the moon,  
When the road was a gipsy's ribbon, looping the purple  
moor,  
A red-coat troop came marching—  
Marching—marching—  
King George's men came marching, up to the old inn-  
door.

They said no word to the landlord, they drank his ale  
instead,  
But they gagged his daughter and bound her to the  
foot of her narrow bed;  
Two of them knelt at her casement, with muskets at  
their side!  
There was death at every window;  
And hell at one dark window;  
For Bess could see, through her casement, the road that  
he would ride.

They had tied her up to attention, with many a snigger-  
ing jest;  
They had bound a musket beside her, with the barrel  
beneath her breast!  
"Now keep good watch!" and they kissed her. She heard  
the dead man say—  
Look for me by moonlight;  
Watch for me by moonlight;  
I'll come to thee by moonlight, though hell should bar  
the way!

She twisted her hands behind her; but all the knots  
held good!  
She writhed her hands till her fingers were wet with  
sweat or blood!  
They stretched and strained in the darkness, and the  
hours crawled by like years,  
Till, now on the stroke of midnight,  
Cold, on the stroke of midnight,  
The tip of one finger touched it! The trigger at least  
was hers!

The tip of one finger touched it; she strove no more for  
the rest!  
Up, she stood up to attention, with the barrel beneath  
her breast,  
She would not risk their hearing; she would not strive  
again;  
For the road lay bare in the moonlight;  
Blank and bare in the moonlight;  
And the blood of her veins in the moonlight throbbed  
to her love's refrain.

Tlot-tlot; tlot-tlot! Had they heard it? The horse-hoofs  
ringing clear;  
Tlot-tlot; tlot-tlot, in the distance? Were they deaf that  
they did not hear?  
Down the ribbon of moonlight, over the brow of the hill,  
The highwayman came riding,  
Riding, riding!  
The red-coats looked to their priming! She stood up  
straight and still!

Tlot-tlot, in the frosty silence! Tlot-tlot, in the echoing  
night!  
Nearer he came and nearer! Her face was like a light!  
Her eyes grew wide for a moment; she drew one last  
deep breath,  
Then her finger moved in the moonlight,  
Her musket shattered the moonlight,  
Shattered her breast in the moonlight and warned him—  
with her death.

He turned, he spurred to the West; he did not know who  
stood

Bowed, with her head o'er the musket, drenched with  
her own red blood!

Not till the dawn he heard it; his face grew gray to hear  
How Bess, the landlord's daughter,

The landlord's black-eyed daughter,

Had watched for her love in the moonlight, and died  
in the darkness there.

Back he spurred like a madman, shrieking a curse to  
the sky,

With the white road smoking behind him and his rapier  
brandished high!

Blood-red were his spurs i' the golden noon; wine-red  
was his velvet coat,

When they shot him down on the highway,

Down like a dog on the highway,

And he lay in his blood on the highway, with the bunch  
of lace at his throat.

And still of a winter's night, they say, when the wind  
is in the trees,

When the moon is a ghostly galleon tossed upon cloudy  
seas,

When the road is a ribbon of moonlight over the purple  
moor,

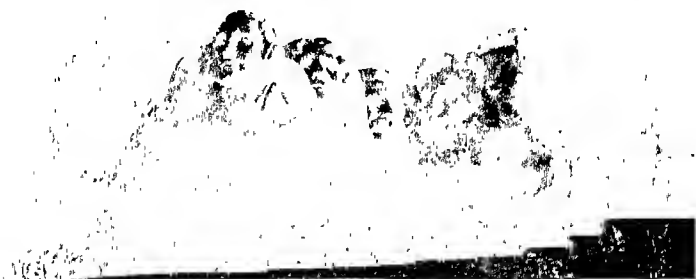
A highwayman comes riding—

Riding—riding—

A highwayman comes riding, up to the old inn-door.

Over the cobbles he clatters and clangs in the dark inn-  
yard;  
He taps with his whip on the shutters, but all is locked  
and barred;  
He whistles a tune to the window, and who should be  
waiting there  
But the landlord's black-eyed daughter,  
Bess, the landlord's daughter,  
Plaiting a dark red love-knot into her long black hair.

—*Alfred Noyes*



### WANTED

God give us men. The time demands  
Strong minds, great hearts, true faith, and willing hands;  
Men whom the lust of office does not kill;  
Men whom the spoils of office cannot buy;  
Men who possess opinions and a will;  
Men who have honor; men who will not lie;  
Men who can stand before a demagogue  
And damn his treacherous flatteries without winking;  
Tall men, sun-crowned, who live above the fog  
In public duty and in private thinking.

—*Josiah Gilbert Holland*



### AMERICA FOR ME

'Tis fine to see the Old World, and travel up and down  
Among the famous palaces and cities of renown,  
To admire the crumbly castles and the statues of the  
kings—

But now I think I've had enough of antiquated things.

So it's home again, and home again, America for  
me!

My heart is turning home again, and there I long  
to be,

In the land of youth and freedom beyond the ocean  
bars,

Where the air is full of sunlight and the flag is full  
of stars.

Oh, London is a man's town, there's power in the air;  
And Paris is a woman's town, with flowers in her hair;  
And it's sweet to dream in Venice, and it's great to  
study Rome;

But when it comes to living, there is no place like home.

I like the German fir woods, in green battalions drilled;  
I like the gardens of Versailles with flashing fountains  
filled;

But, oh, to take your hand, my dear, and ramble for  
a day

In the friendly western woodland where Nature has  
her way!

I know that Europe's wonderful, yet something seems  
to lack;

The Past is too much with her, and the people looking  
back;

But the glory of the Present is to make the Future free—  
We love our land for what she is and what she is to be.

Oh, it's home again, and home again, America for  
me!

I want a ship that's westward bound to plow the  
rolling sea,

To the blessed Land of Room Enough beyond the  
ocean bars,

Where the air is full of sunlight and the flag is full  
of stars.

—Henry van Dyke

#### ACTIVITIES

1. Reread "Sea Fever" and "America for Me" and suggest possible illustrations.
2. Select a part of "The Highwayman" and read it to the class.
3. Reread "Wanted." What kind of person do you think the author of this poem was?

## Humor in Poetry

Two humorous poems are presented for your enjoyment. One is in the dialect of a foreign-born American and though humorous is, nevertheless, sincere. The other is an ever-popular poem to which one often hears reference.

### LEETLA GIORGIO WASHEENTON

In this poem a man from Italy, who came to love his adopted country, tells his little boy the story of George Washington and the cherry tree.

You know w'at for ees school keep out

Dees holiday, my son?

Wal, den, I gona tal you 'bout

Dees Giorgio Washeenton.

Wal, Giorgio was leetla keed

Ees leeve long time ago,

An' he gon' school for learn to read

An' write hees nam', you know.

He moocha like for gona school

An' learna hard all day,

Baycause he no gat time for fool

Weeth keeds an' play.

Wal, wan cold day w'en Giorgio

Ees steal so vera small,

He start from home, but he ees no

Show up een school at all!

O! my! hees Pop ees gatta mad

An' so he tal hees wife:

"Som' leetla boy ees gon' feel bad

To-day, you bat my life!"



An' den he grab a beega steeck  
An' gon' out een da snow  
An' lookin' all aroun' for seek  
Da leetla Giorgio.  
Ha! w'at you theenk? Firs' theeng he see  
Where leetla boy he stan'  
All tangla up een cherry tree,  
Weeth hatchet een hees han'.  
"Ha! w'at you do?" hees Pop he say,  
"W'at for you busta rule  
An' stay away like dees for play  
Eenstead for gon' to school?"  
Da boy ees say: "I no can lie,  
An' so I speaka true.  
I stay away from school for try  
An' gat som' wood for you.  
I theenka deesa cherry tree  
Ees gooda size for chop,  
An' so I cut heem down, you see,  
For justa help my Pop."  
Hees Pop he no can gatta mad,  
But looka please an' say:  
"My leetla boy, I am so glad  
You taka holiday."  
Ees good for leetla boy, you see,  
For be so bright an' try  
For help hees Pop; so den he be  
A granda man bimeby.  
So now you gatta holiday  
An' eet ees good, you know,  
For you gon' do da sama way  
Like leetla Giorgio.



Don't play so mooch, but justa stop,  
Eef you want be som' good,  
An' justa help your poor old Pop  
By carry home some wood;  
An' mebbe so like Giorgio  
You grow for be so great  
You gona be da President  
Of dese Unita State'.

—T. A. Daly

## THE DEACON'S MASTERPIECE

Oliver Wendell Holmes has the ability to write descriptions of things and events in a humorous way. Even though he was a licensed physician his patients sometimes found it difficult to take him seriously because of his reputation as a "funny man." This is one of his most enjoyable poems.

Have you heard of the wonderful one-hoss shay,  
That was built in such a logical way  
It ran a hundred years to a day,  
And then, of a sudden, it—ah, but stay,  
I'll tell you what happened without delay,  
Scaring the parson into fits,  
Frightening people out of their wits,—  
Have you ever heard of that, I say?

Seventeen hundred and fifty-five.  
Georgius Secundus was then alive,—  
Snuffy old drone from the German hive.  
That was the year when Lisbon-town  
Saw the earth open and gulp her down,  
And Braddock's army was done so brown,  
Left without a scalp of its crown.  
It was on the terrible Earthquake-day  
That the Deacon finished the one-hoss shay.

Now in the building of chaises, I tell you what,  
There is always somewhere a weakest spot,—  
In hub, tire, felloe, in spring or thill,  
In panel, or crossbar, or floor, or sill,  
In screw, bolt, thoroughbrace—lurking still,  
Find it somewhere you must and will,—

Above or below, or within or without,—  
And that's the reason, beyond a doubt,  
A chaise breaks down, but doesn't wear out.

But the Deacon swore (as Deacons do,  
With an "I dew vum," or an "I tell yeou")  
He would build one shay to beat the taown  
'N' the keounty 'n' all the kentry raoun;  
It should be so built that it couldn' break daown;  
"Fur," said the Deacon, "'t's mighty plain  
Thut the weakes' place mus' stan' the strean;  
'N' the way t' fix it, uz I maintain,  
Is only jest  
T' make that place uz strong uz the rest."

So the Deacon inquired of the village folk  
Where he could find the strongest oak,  
That couldn't be spilt nor bent nor broke,—  
That was for spokes and floor and sills;  
He sent for lance wood to make the thills;  
The crossbars were ash, from the straightest trees,  
The panels of white-wood, that cuts like cheese,  
But lasts like iron for things like these;  
The hubs of logs from the "Settler's ellum,"  
Last of its timber,—they couldn't sell 'em,  
Never an axe had seen their chips,  
And the wedges flew from beneath their lips,  
Their blunt ends frizzled like celery-tips;  
Step and prop-iron, bolt and screw,  
Spring, tire, axle, and linchpin too,  
Steel of the finest, bright and blue;  
Thoroughbrace bison-skin, thick and wide;

Boot, top, dasher, from tough old hide  
Found in the pit when the tanner died.  
That was the way he "put her through."—  
"There!" said the Deacon, "Naow she'll dew!"  
Do! I tell you, I rather guess  
She was a wonder, and nothing less!  
Colts grew horses, beards turned gray,  
Deacon and deaconess dropped away,  
Children and grandchildren—where were they?  
But there stood the stout old one-hoss shay  
As fresh as on Lisbon-earthquake-day!

Eighteen hundred;—it came and found  
The Deacon's masterpiece strong and sound.  
Eighteen hundred increased by ten;—  
"Hahnsum Kerridge" they called it then.  
Eighteen hundred and twenty came;—  
Running as usual; much the same.  
Thirty and forty at last arrive,  
And then come fifty, and fifty-five.  
Little of all we value here  
Wakes on the morn of its hundredth year  
Without both feeling and looking queer.  
In fact, there's nothing that keeps its youth,  
So far as I know, but a tree and truth.  
(This is a moral that runs at large;  
Take it.—You're welcome.—No extra charge.)

First of November,—the earthquake day,—  
There are traces of age in the one-hoss shay,  
A general flavor of mild decay,  
But nothing local, as one may say.

There couldn't be,—for the Deacon's art  
Had made it so like in every part  
That there wasn't a chance for one to start.  
For the wheels were just as strong as the thills,  
And the floor was just as strong as the sills,  
And the panels just as strong as the floor,  
And the whippletree neither less nor more,  
And the back crossbar as strong as the fore,  
And spring and axle and hub encore.  
And yet, as a whole, it is past a doubt  
In another hour it will be worn out!

First of November, 'Fifty-five!  
This morning the parson takes a drive.  
Now, small boys, get out of the way!  
Here comes the wonderful one-hoss shay,  
Drawn by a rat-tailed, ewe-necked bay.  
"Huddup!" said the parson.—Off went they.  
The parson was working his Sunday's text,—  
Had got to fifthly, and stopped perplexed  
At what the—Moses—was coming next.  
All at once the horse stood still,  
Close by the meet'n'-house on the hill.  
First a shiver, and then a thrill,  
Then something decidedly like a spill,—  
And the parson was sitting upon a rock,  
At half past nine by the meet'n'-house clock,—  
Just the hour of the earthquake shock!

What do you think the parson found,  
When he got up and stared around?  
The poor old chaise in a heap or mound,  
As if it had been to the mill and ground!

You see, of course, if you're not a dunce,  
How it went to pieces all at once,—  
All at once and nothing first,—  
Just as bubbles do when they burst.

End of the wonderful one-hoss shay.  
Logic is logic. That's all I say.

—*Oliver Wendell Holmes*

#### ACTIVITIES

1. A pantomime is a dramatization without words. Let two members of the class pantomime the cherry tree legend; two others pantomime the Italian's version as told to his son. During the second pantomime the poem may be read aloud by the class.
2. Select some lines from *The Deacon's Masterpiece* that gave an especially good or humorous picture.
3. Tell of other topics about which a humorous poem of this kind might be written today.

## Choral Reading

Choral reading of poetry is enjoyable for both the reader and the listener. The poems which you have read in this book have the rhythm that lends itself to choral, or choir, reading.

In choral reading the best results are secured when several pupils read together. The readers might be grouped according to the pitch of their voices—high, medium, and low. The same part grouping that is used in chorus singing may be used.

At first groups may not harmonize perfectly with each other, or individuals may be out of harmony with the group. In the first choral reading of a poem each individual in the choir should try to give his own meaning. Then, if the class enjoys the choral reading of a poem, the group may work to improve its reading.

A discussion of a poem after the first reading may bring suggestions for improving its interpretation through change in speed of reading lines and phrases and of emphasis on words. Interpretation may be aided also by change of voice from loud to soft and the part and solo reading of lines. All the variations possible in interpretation by a singing choir are equally possible for a speaking choir. There may be one or two pupils in the class who can act as leaders of the choir as it reads.

Try reading the next few poems, following the suggestions that are given for part, group, or solo reading. Then, from time to time, you may enjoy going back to do choral reading of the other poems in this book.



## THE HIGHWAYMAN

*Entire Choir**Spirited*

The wind was a torrent of darkness  
among the gusty trees,

*Rhythmic and  
smooth*

The moon was a ghostly galleon  
tossed upon cloudy seas,  
The road was a ribbon of moonlight  
over the purple moor,  
And the highwayman came riding—  
Riding—riding—

*Accent to show  
action*

The highwayman came riding, up to  
the old inn-door.

*High Voices**Light—quick  
for contrast*

He'd a French cocked-hat on his fore-  
head, a bunch of lace at his chin,  
A coat of the claret velvet, and  
breeches of brown doe-skin;  
They fitted with never a wrinkle: His  
boots were up to the thigh!  
And he rode with a jewelled twinkle,  
His pistol butts a-twinkle,  
His rapier hilt a-twinkle, under the  
jewelled sky.

*Medium Voices**Slower*

Over the cobbles he clattered and  
clashed in the dark inn-yard,  
And he tapped with his whip on the  
shutters, but all was locked and  
barred;

He whistled a tune to the window,  
and who should be waiting there  
But the landlord's black-eyed daughter,  
ter,

Bess, the landlord's daughter,  
Plaiting a dark red love-knot into her  
long black hair.

*Low Voices*

*Slowly, to show  
suspense*

And dark in the dark old inn-yard a  
stable wicket creaked  
Where Tim the ostler listened; his  
face was white and peaked;  
His eyes were hollows of madness,  
his hair like mouldy hay,  
But he loved the landlord's daughter,  
The landlord's red-lipped daughter,  
ter,  
Dumb as a dog he listened, and he  
heard the robber say—

*Medium Boy's Voice*

*Faster, to show  
lightheartedness*

"One kiss, my bonny sweetheart, I'm  
after a prize tonight,  
But I shall be back with the yellow  
gold before the morning light;  
Yet if they press me sharply, and  
harry me through the day,  
Then look for me by moonlight,  
Watch for me by moonlight,  
I'll come to thee by moonlight, though  
hell should bar the way."

*Medium Voices**Slower and  
dramatic*

He rose upright in the stirrups; he  
 scarce could reach her hand,  
 But she loosened her hair i' the case-  
 ment! His face burnt like a brand  
 As the black cascade of perfume came  
 tumbling over his breast;  
 And he kissed its waves in the moon-  
 light,

*Girls' Voices*

*Slow—low pitch* (Oh, sweet black waves in the moon-  
 light!)

*Entire Choir**Faster*

Then he tugged at his rein in the  
 moonlight, and galloped away to  
 the West.

—Alfred Noyes

## SEA FEVER

*Sea Fever* by John Masefield, which you read on page 224, is a fine selection for choral reading. The following directions may be used to secure good results..

The first stanza may be read by the entire class. Lines 1 and 2 might be read with a rhythm that makes one feel the great space of "sea and sky." For line 3 the voices should tell of the kick, song, and shaking—in other words, express action. Line 4 should be read to interpret haze or mist—it is a dreamy sort of line.

Notice that the words *wild* and *clear* help you read a line in Stanza 2; note the urge in the first part of Stanza 3 and the feeling of peace at the close.

# The Happy Prince

by

OSCAR WILDE

"The Happy Prince" is a fairy tale beautifully told by the great English author, Oscar Wilde. He told this story at a banquet at which he was asked to speak. Later, he was persuaded to put it in writing for publication.

The way in which you should read the story depends upon how well you like it. If you read it only for the story, you can read rapidly. If, however, you enjoy beautifully expressed thoughts, you may read parts or all of the story more slowly. You may even wish to re-read it.

High above the city, on a tall column, stood the statue of the Happy Prince. He was gilded all over with thin leaves of fine gold, for eyes he had two bright sapphires, and a large red ruby glowed on his sword-hilt.

He was very much admired indeed. "He is as beautiful as a weather-cock," remarked one of the Town Councilors who wished to gain a reputation for having artistic taste; "only not quite so useful," he added, fearing lest people should think him impractical, which he really was not.

"Why can't you be like the Happy Prince?" asked a sensible mother of her little boy who was crying for the moon. "The Happy Prince never dreams of crying for anything."

"I am glad there is someone in the world who is quite happy," muttered a disappointed man as he gazed at the wonderful statue.

"He looks just like an angel," said the charity children as they came out of the cathedral in their bright scarlet cloaks and their clean white pinafores.

"How do you know?" said the Mathematical Master. "You have never seen one."

"Ah! but we have in our dreams," answered the children; and the Mathematical Master frowned and looked very severe, for he did not approve of children dreaming.

One night there flew over the city a little Swallow. His friends had gone away to Egypt six weeks before, but he had stayed behind, for he was in love with the most beautiful Reed. He had met her early in the spring as he was flying down the river after a big yellow moth, and had been so attracted by her slender waist that he had stopped to talk to her.

"Shall I love you?" said the Swallow, who liked to come to the point at once, and the Reed made him a low bow. So he flew round and round her, touching the water with his wings, and making silver ripples. This was his courtship, and it lasted all through the summer.

"It is a ridiculous attachment," twittered the other Swallows, "she has no money, and far too many relations"; and indeed the river was quite full of Reeds. Then when autumn came, they all flew away.

After they had gone the swallow felt lonely, and began to tire of his lady-love. "She has no conversation," he said, "and I am afraid that she is a coquette, for she is always flirting with the wind." And certainly, whenever the wind blew, the Reed made the most graceful curtsies. "I admit that she is domestic," he continued, "but I love travelling, and my wife, consequently, should love travelling also."

"Will you come away with me?" he said finally to her; but the Reed shook her head, she was so attached to her home.

"You have been trifling with me," he cried, "I am off to the Pyramids. Goodbye!" and he flew away.

All day long he flew, and at nighttime he arrived at the city. "Where shall I put up?" he said. "I hope the town has made preparations."

Then he saw the statue on the tall column. "I will put up there," he cried. "It is a fine position with plenty of fresh air." So he alighted just between the feet of the Happy Prince.

"I have a golden bedroom," he said softly to himself as he looked around, and he prepared to go to sleep; but just as he was putting his head under his wing a large drop of water fell on him. "What a curious thing!" he cried. "There is not a single cloud in the sky, the stars are quite clear and bright, and yet it is raining. The climate in the north of Europe is really dreadful. The Reed used to like the rain, but that was her selfishness."

Then another drop fell.

"What is the use of a statue if it cannot keep the rain off," he said. "I must look for a good chimney-pot," and he determined to fly away.

Before he had opened his wings a third drop fell, and he looked up, and saw—Ah! what did he see?

The eyes of the Happy Prince were filled with tears, and tears were running down his golden cheeks. His face was so beautiful in the moonlight that the little Swallow was filled with pity.

"Who are you?" he said.

"I am the Happy Prince."

"Why are you weeping then?" asked the Swallow; "you have quite drenched me."

"When I was alive and had a human heart," answered the statue, "I did not know what tears were, for I lived in the Palace of Sans-Souci, where sorrow is not allowed to enter. In the daytime I played with my companions in the garden, and in the evening I led the dance in the Great Hall. Round the garden ran a very lofty wall, but I never cared to ask what lay beyond it, everything about me was so beautiful. My courtiers called me the Happy Prince, and happy indeed I was, if pleasure be happiness. So I lived, and so I died. Now that I am dead they have set me up here so high that I can see all the ugliness and all the misery of my city, and though my heart is made of lead yet I cannot choose but weep."

"What, is he not solid gold?" said the Swallow to himself. He was too polite to make any personal remarks out loud.

"Far away," continued the statue in a low musical voice, "far away in a little street there is a poor house. One of the windows is open, and through it I can see a woman seated at a table. Her face is thin and worn, and she has coarse, red hands, all pricked by the needle, for she is a seamstress. She is embroidering passion-flowers on a satin gown for the loveliest of the Queen's maids-of-honour to wear at the next Court-ball. In a bed in the corner of the room her little boy is lying ill. He has a fever, and is asking for oranges. His mother has nothing to give him but river water, so he is crying. Swallow, Swallow, little Swallow, will you not bring her the ruby out of my sword-hilt? My feet are fastened to this pedestal and I cannot move."

"I am waited for in Egypt," said the Swallow. "My friends are flying up and down the Nile, and talking to the large lotus-flowers. Soon they will go to sleep in the tomb of the great King. The King is there himself in his painted coffin. He is wrapped in yellow linen and embalmed with spices. Round his neck is a chain of pale jade, his hands are like withered leaves."

"Swallow, Swallow, little Swallow," said the Prince, "will you not stay with me for one night, and be my messenger? The boy is so thirsty and the mother so sad."

"I don't think I like boys," answered the Swallow. "Last summer, when I was staying on the river, there were two rude boys, the miller's sons, who were always throwing stones at me. They never hit me, of course; we swallows fly far too well for that, and, besides, I come of a family famous for its agility; but still, it was a mark of disrespect."

The Happy Prince looked so sad that the little Swallow was sorry. "It is very cold here," he said; "but I will stay with you for one night, and be your messenger."

"Thank you, little Swallow," said the Prince.

The Swallow picked out the great ruby from the Prince's sword, and flew away with it in his beak over the roofs of the town.

He passed by the cathedral tower, where the white marble angels were sculptured. He passed by the palace and heard the sound of dancing. A beautiful girl came out on the balcony with her lover.

"How wonderful the stars are," he said to her, "and how wonderful is the power of love!"



"I hope my dress will be ready in time for the State-ball," she answered; "I have ordered passion-flowers to be embroidered on it; but the seamstresses are so lazy."

The Swallow passed over the river, and saw the lanterns hanging to the masts of the ships. He passed over the marketplace, and saw the merchants bargaining with each other, and weighing out money in copper scales. At last he came to the poor house and looked in. The boy was tossing feverishly on his bed, and the mother had fallen asleep, she was so tired. In he hopped, and laid the great ruby on the table beside the woman's thimble. Then he flew gently around the bed, fanning the boy's forehead with his wings.

"How cool I feel," said the boy, "I must be getting better," and he sank into a delicious slumber.

Then the Swallow flew back to the Happy Prince, and told him what he had done.

"It is curious," he remarked, "but I feel quite warm now, although it is so cold."

"That is because you have done a good deed," said the Prince.

The little Swallow began to think, and then he fell asleep. Thinking always made him sleepy.

When day broke, he flew down to the river and had a bath. "What a remarkable phenomenon," said the professor of Ornithology as he was passing over the bridge. "A swallow in winter!" And he wrote a long letter about it to the local newspaper. Everyone quoted it, it was full of so many words that they could not understand.

"Tonight I go to Egypt," said the Swallow, and he was in high spirits at the prospect. He visited all the

public monuments, and sat a long time on top of the church steeple. Wherever he went Sparrows chirruped, and said to each other, "What a distinguished stranger!" so he enjoyed himself very much.

When the moon rose, he flew back to the Happy Prince. "Have you any commissions for Egypt?" he cried. "I am just starting."

"Swallow, Swallow, little Swallow," said the Prince, "will you not stay with me one night longer?"

"I am waited for in Egypt," answered the Swallow. "Tomorrow my friends will fly up to the Second Cataract. The river-horse couches there among the bulrushes, and on a great granite throne sits the God Memnon. All night long he watches the stars, and when the morning star shines he utters one cry of joy, and then he is silent. At noon the yellow lions come down to the water's edge to drink. They have eyes like green beryls, and their roar is louder than the roar of the cataract."

"Swallow, Swallow, little Swallow," said the Prince. "Far away across the city I see a young man in a garret. He is leaning over a desk covered with papers, and in a tumbler by his side there is a bunch of withered violets. His hair is brown and crisp, and his lips are red as a pomegranate, and he has large and dreamy eyes. He is trying to finish a play for the Director of the Theatre, but he is too cold to write any more. There is no fire in the grate, and hunger has made him faint."

"I will wait with you one night longer," said the Swallow, who really had a good heart. "Shall I take him another ruby?"

"Alas! I have no ruby now," said the Prince. "My

eyes are all that I have left. They are made of rare sapphires, which were brought out of India a thousand years ago. Pluck out one of them and take it to him. He will sell it to the Jeweller, and buy food and firewood, and finish his play."

"Dear Prince," said the Swallow, "I cannot do that," and he began to weep.

"Swallow, Swallow, little Swallow," said the Prince, "do as I command you."

The Swallow plucked out the Prince's eye, and flew away to the student's garret. It was easy enough to get in, as there was a hole in the roof. Through this he darted, and came into the room. The young man had his head buried in his hands, so he did not hear the flutter of the bird's wings, and when he looked up he found the beautiful sapphire lying on the withered violets.

"I am beginning to be appreciated," he cried. "This is from some great admirer. Now I can finish my play," and he looked quite happy.

The next day the Swallow flew down to the harbor. He sat on the mast of a large vessel and watched the sailors hauling big chests out of the hold with ropes. "Heave a-hoy!" they shouted as each chest came up.

"I am going to Egypt!" cried the Swallow, but nobody minded, and when the moon rose he flew back to the Happy Prince.

"I am come to bid you good-bye," he cried.

"Swallow, Swallow, little Swallow," said the Prince, "will you not stay with me one night longer?"

"It is winter," answered the Swallow, "and the chill snow will soon be here. In Egypt the sun is warming

the green palm trees, and the crocodiles lie in the mud and look lazily about them. My companions are building a nest in the Temple of Baalbec, and the pink and white doves are watching them, and cooing to each other. Dear Prince, I must leave you, but I will never forget you; and next spring I will bring you back two beautiful jewels in place of those you have given away. The ruby shall be redder than a red rose, and the sapphire shall be as blue as the great sea."

"In the square below," said the Happy Prince, "there stands a little match-girl. She has let her matches fall in the gutter, and they are all spoiled. Her father will beat her if she does not bring home some money, and she is crying. She has no shoes or stockings, and her little head is bare. Pluck out my other eye, and give it to her, and her father will not beat her."

"I will stay with you one night longer," said the Swallow, "but I cannot pluck out your eye. You would be quite blind then."

"Swallow, Swallow, little Swallow," said the Prince, "do as I command you."

So he plucked out the Prince's other eye and darted down with it. He swooped past the match-girl, and slipped the jewel into the palm of her hand. "What a lovely bit of glass," cried the little girl; and she ran home, laughing.

Then the Swallow came back to the Prince. "You are blind now," he said, "so I will stay with you always."

"No, little Swallow," said the poor Prince, "you must go away to Egypt."

"I will stay with you always," said the Swallow, and he slept at the Prince's feet.

All the next day he sat on the Prince's shoulder, and told him stories of what he had seen in strange lands. He told him of the red ibises, who stand in long rows on the banks of the Nile and catch goldfish in their beaks; of the Sphinx, who is as old as the world itself, and lives in the desert, and knows everything; of the merchants, who walk slowly by the side of their camels, and carry amber beads in their hands; of the King of the Mountains of the Moon, who is as black as ebony, and worships a large crystal; of the great green snake that sleeps in a palm tree, and has twenty priests to feed it with honey-cakes; and of the Pygmies who sail over a big lake on large flat leaves, and are always at war with the butterflies.

"Dear little Swallow," said the Prince, "you tell me of marvelous things, but more marvelous than anything is the suffering of men and women. There is no mystery so great as Misery. Fly over my city, little Swallow, and tell me what you see there."

So the Swallow flew over the great city, and saw the rich making merry in their beautiful houses, while the beggars were sitting at the gates. He flew into dark lanes, and saw the white faces of starving children looking out listlessly at the black streets. Under the archway of a bridge two little boys were lying in one another's arms to try and keep themselves warm. "How hungry we are!" they said.

"You must not lie here," shouted the watchman, and they wandered out into the rain.

Then he flew back and told the Prince what he had seen.

"I am covered with fine gold," said the Prince; "you

must take it off leaf by leaf, and give it to my poor; the living always think that gold can make them happy."

Leaf after leaf of the fine gold the Swallow picked off, till the Happy Prince looked quite dull and grey. Leaf after leaf of the fine gold he brought to the poor. The children's faces grew rosier. They laughed and played games in the street. "We have bread now!" they cried.

Then the snow came, and after the snow came the frost. The streets looked as if they were made of silver, they were so bright and glistening; long icicles like crystal daggers hung down from the eaves of the houses, everybody went about in furs, and the little boys wore scarlet caps and skated on the ice.

The poor little Swallow grew colder and colder, but he would not leave the Prince; he loved him too well. He picked up crumbs outside the baker's door when the baker was not looking, and tried to keep himself warm by flapping his wings.

But at last he knew that he was going to die. He had just strength to fly up the Prince's shoulder once more. "Good-bye, dear Prince!" he murmured. "Will you let me kiss your hand?"

"I am glad that you are going to Egypt at last, Little Swallow," said the Prince, "you have stayed too long here; but you must kiss me on the lips, for I love you."

"It is not to Egypt that I am going," said the Swallow. "I am going to the House of Death. Death is the brother of Sleep, is he not?" He kissed the Happy Prince on the lips, and fell down dead at his feet. At that moment a curious crack sounded inside the statue as if something had broken. The fact is that the leaden heart had snapped in two. It certainly was a dreadfully hard frost.

Early the next morning the Mayor was walking in the square below in company with the Town Councilors. As they passed the Column, he looked up at the statue.

"How shabby the Happy Prince looks!" he said.

"How shabby indeed!" cried the Town Councilors, who always agreed with the Mayor, and they went up to look at it.

"The ruby has fallen out of his sword, his eyes are gone, and he is golden no longer," said the Mayor. "In fact, he is little better than a beggar!"

"Little better than a beggar," said the Town Councilors.

"And here is actually a dead bird at his feet!" continued the Mayor. "We must really issue a proclamation that birds are not to be allowed to die here." The Town Clerk made a note of the suggestion.

So they pulled down the statue of the Happy Prince. "As he is no longer beautiful he is no longer useful," said the Art Professor at the University.

Then they melted the statue in a furnace, and the Mayor held a meeting of the Corporation to decide what was to be done with the metal. "We must have another statue, of course," he said, "and it shall be a statue of myself."

"Of myself," said each of the Town Councilors, and they quarreled. When I last heard of them, they were quarreling still.

"What a strange thing!" said the overseer of the workmen at the foundry. "This broken lead heart will not melt in the furnace. We must throw it away." So they threw it on a dust-heap where the dead swallow was also lying.

"Bring me the two most precious things in the city," said God to one of His Angels; and the Angel brought Him the leaden heart and the dead bird.

"You have rightly chosen," said God, "for in my garden of Paradise this little bird shall sing for evermore, and in my city of gold the Happy Prince shall praise me."

### ACTIVITIES

1. Why do you suppose the prince's heart broke at last?
2. What amusing situations in the story did you enjoy?
3. In what way or ways did this fairy tale differ from others you have read?

### SUMMARY ACTIVITIES

1. Explain the differences in ways of reading "Barney Cook, Boy Detective," "Nerves," and "Leetla Giorgio Washeenton."
2. Are these differences likely to occur whenever you read a short story, a play, or a poem?



## SECTION V

### Ability to Organize Information

*This section explains three ways of organizing information secured by reading. The three ways are: by summarizing, by notetaking, and by outlining. The ability to organize information properly will prove to be of great value to you in your study of school subjects. It will also be helpful in out-of-school reading of material which you may wish to retell or to recall at some later time.*



## Organizing Information

Read carefully and reread parts that you find will be especially helpful.

The organization of information means an orderly arrangement of ideas. Good readers strive constantly to organize what they read. Such organizing may be done in terms of time, sequence of events, importance of items, or order of difficulty.

Certain happenings or events may be organized in terms of their occurrence in time. If a story is to be told, the events usually are related in the order in which they occurred. Ideas may be organized in the order in which they are to be carried out in making or doing something. Information may be organized in terms of its difficulty of comprehension. In arithmetic, the easier problems usually are presented first and the more difficult ones later. A list of words might be organized in terms of their spelling difficulty. Other items may be arranged in the order of their frequency of occurrence or of their importance. Causes of automobile accidents, for example, are often classified according to frequency with which they occur.

An example of organization is the classification of items under the main divisions to which they belong. A list of words, some of which are the names of trees, others the names of animals, and still others the names of vegetables, might be arranged in three lists under the headings of *Trees*, *Animals*, and *Vegetables*, as shown on the following page.

<u>Trees</u>	<u>Animals</u>	<u>Vegetables</u>
beech	bear	potato
chestnut	cow	bean
oak	horse	corn
pine	squirrel	carrot
cedar	tiger	beet
spruce	moose	peas
maple	antelope	lettuce
holly	donkey	turnips
magnolia	zebra	tomatoes

One might have a great amount of information about a topic, but he might find the facts were not usable until they were classified. If, for example, the facts were about Colonial life, the following classification might be made:

#### Colonial Home

Construction

Heating

Furniture

#### Colonial Food

Storing food

Cooking and preparation

#### Clothing Worn in Colonial Times

Types of clothing

Preparation

### VALUE OF ORGANIZATION

Ideas and information which are organized are more readily used, are more thoroughly comprehended, and are more readily remembered.

If the information consists of directions to be followed

in making or running something, their use is improved because they have been organized in terms of the order of steps to be followed. An index of the information in a book is a form of organization that enables one to locate quickly information for the use of the reader. The organization of information by the student makes it easier to locate later facts which are needed.

The grouping together of information which explains or describes a point or topic helps the student to get a clearer understanding of it. Comprehension by the reader involves the organization of information that is important and the elimination of unimportant ideas.

Information which has been organized is easier to remember later. First, as the student organizes he simplifies what is to be remembered by selecting only the important ideas and information. Second, the remembering of one idea helps in recalling other ideas which have been related to it in an organized form. When a student reviews what he has read, he mentally goes over the ideas which are related, one to another. The more clearly these ideas are organized, the easier it will be to recall them later.

### TYPES OF ORGANIZATION

There are three common types of organization used by students—summarizing, notetaking, and outlining. A summary is a condensed or brief statement of the gist of the material read. It contains the essential ideas and thoughts organized to show relationships. A summary of an article or story consists of a restatement in a few words of the thought contained in it. Notes are the reader's record of information and ideas contained

in the material. An outline is an orderly listing of main topics and minor ideas contained in material read. It shows the relative importance of ideas and their relationship to each other.

#### ACTIVITIES

1. List four examples of the basis for the organization of information and ideas. The first might be organization in terms of the time of occurrence.
2. What three types of organization of ideas and information can be used by pupils?
3. What is the most valuable use of organization of information to the student?
4. Tell of some recent study situation in which you have found organization of information especially valuable.

## Making a Summary

A good summary is, first, a short statement of what has been read. Second, it is an arrangement of the important ideas in the order in which they will serve best to recall the article or story to mind. A summary of a story should tell the main items in as few words as possible. It is really a very short story of what has been read.

Some magazines give summaries of articles found in other current magazines. The "Book Review" section of newspapers reviews books recently published. These reviews are usually brief summaries of the books. Often the reviewer adds to the summary his opinion of the merits of the book. In addition he frequently gives interesting information concerning the background of the author. These added features are not a part of the reviewer's summary of the book but are given for the interest and guidance of the reader who is seeking assistance in selecting books to read.

Summaries will prove helpful for organizing certain kinds of reading material and for completing certain reading assignments. If one is asked to tell other members of a class the story of a biography or of a novel which he has read, a summary made after reading the book will prove helpful.

Summaries are made not only of one article or book, but often of a number of books or articles on the same subject. Each source may give facts and ideas not contained in other sources. The summary brings them all together into a related account.

Differences of opinion expressed by several writers

on the same subject may be shown in a summary. In the study of history, for example, a summary of the opinion of a number of textbook writers on the causes of the war between Mexico and the United States in 1848 might be required. In reading a number of books which devote pages to telling of the causes, the student probably will encounter differences of opinion. Certainly authors will differ regarding the relative importance of certain causes. The summary might be a statement of the causes which the majority of writers agree upon, or it might recognize their differences of opinion and show wherein they disagree.

Students may find that a great deal of practice may be needed before a good summary can be made. Besides learning to make good summaries, students must learn when summaries will be most helpful for study purposes. Good students not only can make good summaries, but they also know when making summaries will be of help in doing their work.

The brief article on "The Microbe World" presented here is a good summary of the story on page 137-141.

### THE MICROBE WORLD

Microbes, among the smallest living organisms in the world, are both man's greatest friends and enemies. They were first seen through the scientist's microscope, an instrument which magnifies small objects hundreds and thousands of times their actual size, and which has been perfected in modern times. Microbes are so tiny that half a million "average-sized" microbes could be placed on a space the size of the end of a pin.

Although microbes multiply rapidly, other factors,



such as heat, cold, lack of food, and fighting among themselves, prevent them from overrunning the earth. There are conditions under which microbes may either thrive or die. Many will die from lack of oxygen, many from high temperatures, and many from sunlight.

The human body furnishes favorable living conditions for many disease microbes, which are spread from one person to another chiefly through contact. Thus, microbes harmful to human beings are found in the largest numbers where human beings and animals live. The less thickly populated the section, the fewer harmful microbes will be found.

Study through the microscope of these minute organisms disclosed that disease microbes thrive in dark places; that disease microbes like water because of its even temperature; that they are always present in materials which are in the process of decay, such as sewage found in rivers; that boiling or filtering this water will kill them; that the harmful microbes found in dust are killed by the ultraviolet rays of the sun.

Man, through this study of microbes, learned that dirty streets and decaying garbage contain many disease germs which are among the causes of poor health. One of the first steps toward health is cleanliness.

Many diseases are caused by microbes. Some of these microbes have not, as yet, been seen under the microscope.

#### ACTIVITY

Write a one-paragraph summary of one of these:

1. A motion picture you have seen
2. A story you have read
3. A radio broadcast or lecture you have heard

## Taking Notes

The ability to take good notes is of great help to a student. Very few students, however, know how to take good notes or when to take them. Too often time spent on notetaking is wasted because the notes themselves prove to be of little value. Only through practice can one learn to take good notes.

Good notes help to fix in mind the material which is being read. They repeat in writing the information which is important to remember. Taking notes is as valuable in helping recall what has been read as another reading of the material would be. Notes serve as an aid in selecting important ideas and in discarding those which are unimportant. If the notes are good, the important points stand out, and the less important ones are properly related to them. The composing of good notes also will clarify and systematize the thought that is to be remembered.

Notes are helpful in providing the means for a quick review. The notes taken in a course in geography, history, science, or other subjects, can be gone over in preparation for a test or examination.

Notes are useful in helping to organize information which has been gathered from a number of different books or articles. If one were studying about "The Living Conditions of Indians in Colonial Times," information that had to be obtained from many sources would be required. Some of the books read would tell facts already known. In addition, however, each book might

give some information not found in the other ones. By going over the notes taken from each book, the reader could then organize all the information which had been secured. One's notes might then be reorganized under different topics or headings, such as:

- Indian Homes
  - Long house
  - Tepee
  - Wigwam
- Indian Foods
  - Wild plants
  - Maize
  - Wild game
- Indian Clothing
  - Animal skins
  - Furs
  - Bark

#### WHEN NOTES SHOULD BE TAKEN

Students should not take notes on everything they read. One would not be likely to take notes from newspaper reading or from much of the reading done in magazines. When one is reading purely for enjoyment, there is usually no reason for taking notes.

Notetaking should be done when the information contained in reading is important enough to be recorded. When ordinary reading or study is not sufficient to fix in mind the facts and information, then notes may be taken to aid in their retention.

If one wishes to remember information for a long period of time, it may be necessary to go over it and refresh the memory from time to time. Notes form a

record which can be gone over again and again. When books or articles cannot be referred to conveniently, notes make possible an easy reference at least to the most important facts contained in them.

Usually notes should not be taken until after the lesson or article has been read through. The first reading may suffice for finding out what the article is about. The reader may then decide what is important. During the second or partial rereading, notes may be taken on those parts worth recording.

Notetaking should never be a substitute for study. Too often students take notes as they read but make little effort to remember the information. They feel that they can go over their notes later and study them. Unless one thoroughly understands what is read at the time that he is taking notes, it is not likely that he will take notes of the most important points. Poor notes will not help him to get understanding later.

#### DIFFERENT KINDS OF NOTE RECORDS

Notes can be recorded in notebooks, on sheets of paper, or on cards. The kind of note record depends upon the use which is to be made of it and upon the kind of notes to be taken. In subjects such as science, a regular notebook with blank spaces and pages for notes may be used. Usually, printed directions explain and describe what notes to place in the book.

Many students use loose-leaf notebooks and reserve sections in them for different subjects. A loose-leaf notebook is very convenient because the pages can be rearranged easily. A tab, with the name of the subject pasted to the first page in each section, will help in the

location of sets of notes. Every notebook should have a table of contents and an index.

Some students use loose sheets which are kept together in a folder or large envelope. One folder may be used for each subject. Loose sheets are misplaced easily, and it is often difficult to keep them in order in a folder. On the other hand, if there are outlines, maps, charts, and other material to be kept with the notes, a folder is a convenient method of keeping the different types of material together. In organizing material from many sources, as in making a report, loose-leaf notes can be sorted and rearranged easily, and unimportant notes may be quickly discarded.

When it is necessary to take only a few notes from a number of references, cards are often used. The amount of space needed for writing will determine the size of the cards. The three sizes most frequently used are 3 x 5, 4 x 6, and 5 x 8. Cards are especially valuable when the reader must take notes on a number of topics from a number of sources. Cards are easy to sort and group for use.

#### FORM OF GOOD NOTES

The form in which notes are arranged or recorded is a personal matter. Unless the notes are put in a notebook to be handed to the teacher, they can be kept in any desirable or usable form.

Notes recorded in the form of an outline are generally the most usable, because that form enables one to find important ideas quickly. It is not necessary in note-taking to use the outline symbols, although their use or partial use is often helpful. The following form is a good one to use.

I

II

A

B

1

2

a

b

(1)

(2)

(a)

(b)

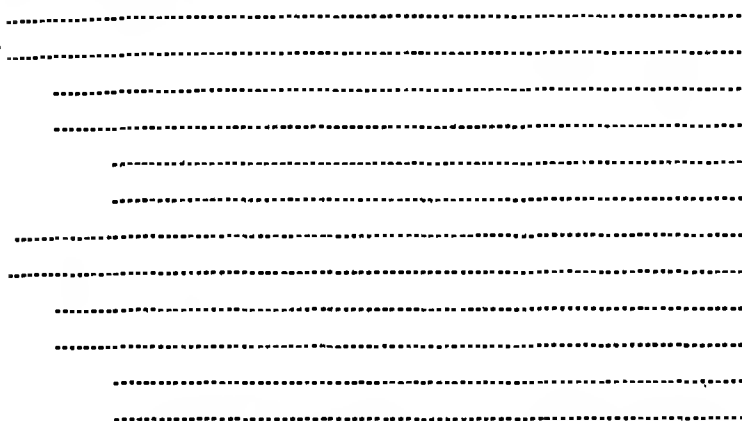
Notes may be recorded in topics, statements, or paragraphs. They may consist of short summaries of sections of an article but may have headings. In form they resemble both the summary and the outline. It is not necessary to have complete sentences. The individual determines whether his notes should be more like a summary or more like an outline. Usually notes have some characteristics of both.

Abbreviations may be used. A few of the common abbreviations used by students are:

&	and	i. e.	that is
Alg.	Algebra	ill.	illustration
bk.	book	J. H. S.	Junior High School
ch.	chapter		
Eng.	English	no.	number
etc.	and so forth	p. (pp.)	page (pages)
ex.	example	ref.	reference
fig.	figure	Sci.	Science
gym.	gymnasium	Soc. S.	Social Science
H. S.	High School	vs.	against

Some common suggestions regarding the form in which notes should be kept are (1) keep a good margin on the left side of your paper, (2) indent to the right the less important statements, (3) underline important statements, (4) use margin notes to indicate important points.

The margins of good notes may look somewhat like the following:



Some students use note paper with a line ruled down the left-hand side. Notes are written on the right-hand side. In the margin is indicated the topic or important point covered by the notes on the other side of the line, as:

Purpose	Review Strengthen memory Organize material
Types	Notebook Loose-leaf Cards

## CHARACTERISTICS OF GOOD NOTES

The title, topic, or question to be covered by the notes should be stated at the top of the paper. Either at the top of the page or in the left-hand margin the source from which the notes are taken should be indicated. If the notes are taken from a book or an article, the following is a good form to use:

---

Headley, Leal A. *How to Study in College*, Ch. XII.  
Henry Holt and Co. 1926

---

---

Roberts and Rand. "How Your Eyes Read," *Scholastic*,  
p. 19-E-, October 30, 1937

---

The topic for each group of notes should be clearly stated. It should stand out so that later it can be located easily when needed.

In general, do not put the notes from more than one reference or topic on a single sheet or card. Where many pages of notes are taken from the same book, the source need not be written out in full on each page. Repeating the author's last name may be sufficient. It is always well when using loose-leaf notes on different subjects to indicate the subject of the notes on each page. An abbreviation can be used and placed in a corner of the paper, as *Sc.* for Science or *Eng.* for English.

Notes should be the reader's own statements of the thoughts or ideas expressed in the content. Statements from books or articles should not be copied unless they are to be used as quotations. Whenever the exact words of an author are used in notes, that fact should be indicated by quotation marks. It is a good idea to indicate the page from which the quotation is taken. This may



be done in a number of ways, such as giving the page reference in parentheses after the quotation, or by drawing two lines after the quotation and putting the page reference between them, as:

(p. 64) or                            
                            p. 64  
  

Two faults are common in notetaking. One is making notes that are unnecessarily long and detailed. The other is making notes that are so brief and lacking in clearness of thought that they cannot be understood when the writer later refers to them for a review. Notes should be accurate statements of thought and should be clear and brief.

It is advisable to read notes after making them in order to determine whether or not they answer the purpose for which they were intended. If they seem faulty, the note taker should determine what is wrong with them. They may be unnecessarily long, not sufficiently clear, or written in poor form. As faults in notetaking are seen, they may be corrected.

The following example of notetaking may prove helpful. These notes were made on the article "Taking Notes" on pages 268-275 of this book.

#### Purpose and Use of Notes

Help to remember information

Help to select important ideas and discard unimportant ideas

Provide means for quick review for tests and examinations

Help to organize information from a number of sources

### When Notes Should Be Taken

- When a record of information is needed
- When one needs to remember information a long time
- When ordinary reading is not sufficient to meet study needs
- When sources of information are not easily accessible for future reference
- After the first reading
- After the article is thoroughly understood

### Different Kinds of Note Records

- Notebooks—loose-leaf sections for different subjects
  - tab sections—easy to locate
  - table and index often helpful
- Loose sheets—keep in folder
  - convenience—other material, maps, charts, and mimeograph material can be included
  - organization—material from many sources can be easily organized
- Cards
  - useful for short notes from many references
  - easily sorted and grouped for use

### Form of Good Notes

- No set form—meets needs of individual
- May have characteristics of both summary and outline
- Common suggestions
  1. Keep margin on the left
  2. Indent to right the less important statements
  3. Underline important statements
  4. Use marginal notes for important points

### Characteristics of Good Notes

Source of notes at top of page

References given for quotations

Only notes from one source on page or card

Notes in own words except in case of quotations

Notes brief, clear, accurate enough to be understood  
later

### ACTIVITIES

1. What new ideas about taking notes has this article given you?
2. List the school subjects in which your study will be aided most by notetaking.
3. Bring to this class the notes you have taken recently in connection with your study of a school subject. See whether they contain the characteristics of good notes which this article suggests.

## How, Why, and When to Outline

A written outline is an organized list of statements of ideas. The relation of these ideas one to another is shown, as is also their relative importance.

Though some people have a preference for some other form of outline, the standard form is used most often. In the standard form statements of the most important ideas are placed near the left-hand margin of the paper. Statements of less importance are placed at a slightly greater distance from the left-hand margin. Thus statements of ideas of lesser importance are placed under and a little to the right of items to which they relate.

In the following outline of the article "Taking Notes" observe that the ideas of greatest importance are placed nearest the left-hand margin of the paper. Subordinate ideas are indented and placed under the most important idea to which they are related. The outline shows the organization of the ideas contained in the article.

### *Taking Notes*

- I. Purpose and Use
  - A. Strengthens first impressions
    - 1. Aids memory
    - 2. Helps maker organize material in mind
  - B. Helps in later review
  - C. Helps in organizing material
- II. When to Use Them
  - A. When time permits
  - B. When nature of material and purpose make notes helpful
  - C. After first reading is completed

### III. Types of Note Records

#### A. Notebooks

#### B. Loose-leaf notebooks

1. Tabs for different subjects
2. Index and table of contents —
3. Removable pages

#### C. Cards for short notes on many references

### IV. Form of Notes

#### A. Outline forms

1. Marginal references
2. Margins on left of paper
3. Important headings and points to the left
4. Minor points indented to the right

#### B. Topic, statement, or paragraph

### V. Characteristics of Good Notes

#### A. Title of reference given and source—page

#### B. Quotations shown by marks with page reference

#### C. Grouping notes under heading to make information easily located

#### D. Accurate statement of thought

1. Expressed (interpretation of thought) in one's own words
2. Clear, brief statements

#### E. Understandable when written

A standard system of notation is commonly used for written outlines. This standard system is as follows:

- I. ....
- A. ....
1. ....
- a. ....
- (1) ....
- (a) ....

Unless the material which is being outlined is long and complex, not more than three different margins should be necessary.

A single subheading is not used. It would be incorrect to put in an outline such a single subheading as:

I. Science is an important study

A. In college

The correct thing to do would be to restate the item in the outline, as:

I. Science is an important college study

A period should be placed after each number and letter in the outline notation. Periods need not be placed after the statement of ideas in the outline. The first word of each statement in the outline should begin with a capital letter. The exception to this rule is where subordinate ideas are not complete statements, but complete the more important statement under which they are placed. The following example shows how subordinate headings should appear:

I. Purpose and Use of Notes

A. Help one

1. to remember information
2. to select important ideas
3. to discard unimportant ideas
4. to organize information from number of sources

B. Provide for quick review

1. before examinations
2. before studying advance assignments

### THREE PURPOSES OF WRITTEN OUTLINES

Outlines are made by students for three purposes: to organize ideas in preparation for expressing them in a talk or speech, to organize ideas in preparation for writing them, and to organize ideas as a help in remembering them. The form of the outline is the same regardless of the purpose for which it is used.

### VALUES OF OUTLINING MATERIAL READ

Outlining enables one to arrange ideas and information in an orderly way. It places the important ideas and topics in the foreground and relates the details to these main ideas.

Too many readers do not learn how to select the important things to be remembered from their reading and then to relate the less important points to each main topic. They have not learned to discard the many unimportant ideas, and to relieve their minds of the burden of trying to remember them. When the reader tries to remember everything included in his reading, he discovers that he has difficulty remembering any of it.

Outlining helps to store away the most important information in an orderly way so that later it can be recalled. An outline is simply a written record of the mental organization of ideas and information which has been read.

Making an outline is of value also when one wishes to state in his own words the thoughts of an author. It aids in getting the author's points and ideas more clearly in mind. The effort required in expressing the author's thoughts in outline form increases the reader's ability to give the ideas in his own words.

### HOW TO OUTLINE

The preparation of an outline involves two steps. First, the reader must determine the relative importance and the relationship of the ideas contained in the material. Second, the student must state these ideas clearly in an outline form.

In analyzing the material to be outlined, the reader should observe the headings which the author used in indicating the divisions of material. Articles in magazines and newspapers frequently have subdivision headings to indicate important ideas. Usually a book is divided into chapters, each of which has a chapter heading. These chapter headings usually are carried as the running heads on each right-hand page in the chapter. Chapters are sometimes subdivided into sections, with sectional headings. These in turn may be divided into still smaller divisions with paragraph headings or marginal notations. The author of a book may furnish a rather complete outline of the book in the headings of the divisions, chapters, and subdivisions. The headings in books and articles will be of great assistance to the reader in determining the organization of the material into major and related minor ideas.

An example of an outline of a book as it might be shown by the different headings is presented below.

#### Title of Book

#### I. Division heading

##### A. Chapter I heading

1. Subchapter heading
2. Subchapter heading
3. Subchapter heading



- 4. Subchapter heading
  - a. Smaller subchapter heading
  - b. Smaller subchapter heading
- B. Chapter II heading
  - 1. Subchapter heading
    - a. Smaller subchapter heading
    - b. Smaller subchapter heading
  - 2. Subchapter heading
- II. Division heading
- etc.

The reader who is to make an outline of an article should try to select the topic sentence in each paragraph of the content. In well-written material each paragraph has a topic sentence expressing the main idea in the paragraph. The rest of the paragraph explains, illustrates, proves, or in some other way expands this idea.

Frequently the statement of the main idea in a paragraph comes in the first sentence, though this is not always true. A writer is usually more or less consistent in this respect, and the reading of a few paragraphs will usually determine the practice used.

As the reader studies the thought in the material, he must evaluate the ideas in terms of relative importance. He must select the main ideas of equivalent importance and select the less important ideas related to each of them. If material is long and complex, the reader will select points related to each of the minor ideas. The reader must weigh the importance of ideas and organize them into their proper relationships. This part of outlining requires thinking.

Unless the author has assisted the reader through headings and subheadings, the written outline cannot

be made effectively until after the reading and the mental evaluation and organization have been made. Where the headings and subheadings furnish at least a partial guide, the written outline can be made as the reader progresses from one major point to the next.

When the reader owns the book or article, he may wish to underline items and even to make marginal notations. Such markings or notations will assist him in organizing the ideas contained in the content.

After the student has organized the ideas by mental evaluation, he is ready for the second step, which is the preparation of the written outline of these ideas. If the standard form and system of notation are understood, the only problem is to state the major and minor points for recording in the outline.

Good outlines are usually consistent throughout in the form of statements used. The two most common forms of statements used are the topical form and sentence form. Whichever form is used, the statement should be clear and should convey to the reader the idea which is intended to be conveyed. The following are examples of the two forms which might be used in making an outline of the article "Taking Notes" which you read previously.

### *Taking Notes*

#### (Sentence Form of Outline)

- I. What are the purpose and use of notes and note-taking?
  - A. Notes help one to remember the thought
  - B. Notes provide a means of quickly reviewing the lesson
  - C. Notetaking helps one to organize the thought

*Taking Notes*  
(Topical Form of Outline)

I. Purpose and Use

A. Memory

B. Review

C. Organizing

Unless the student copies the headings and subheadings from the article or book, it is necessary to state the ideas in the student's own words.

If the student does not thoroughly understand the thought expressed by the writer, it is impossible for him to express the ideas in good outline form. The written outline, therefore, is a measure of the degree of the student's understanding of the ideas obtained through reading.

ACTIVITIES

1. Select a topic from a social studies or a science lesson. Write an outline of it in sentence form.
2. Make an outline of the same lesson in topical form.



## A "Blazer of Trails" in Science

Read the article and try to remember the most outstanding items mentioned in it.

President Lincoln had proclaimed that all Negroes in the United States who had been held as slaves were to be free. The War Between the States had drawn to its weary close. The nation was setting about the task of reorganizing its life.

At the time these events of national importance were taking place a tiny Negro babe, who was destined to become famous, uttered his first cry. His mother had been a slave on the farm of Moses Carver, in Missouri. The child's father, killed before his son's arrival, had been a slave on a near-by farm.

When the baby was about six weeks old, a gang of night riders kidnapped both mother and child. Through the aid of a third party Mr. Carver persuaded the gang to return the baby boy to the farm. The child's mother was never heard from again, but today her son is a famous scientist.

The orphaned babe became very ill as a result of the exposure to which the night riders had subjected him. Though he recovered from the illness, he was not strong and for many years suffered from that cruel experience.

Because the Carver family gave the boy a home, he took their family name. He was so straightforward and truthful that he was given the name George Washington. Little did anyone suspect at the time, however, that the name of George Washington Carver one day would become known throughout the world.

Until he was ten years old, George Carver had no schooling. He did have a strong desire to learn and in what little spare time he had, he studied the old Blue-back speller.

After a time he obtained Mr. Carver's permission to attend a little log-cabin school at Neosho, Missouri. Within a year he completed the work offered there, so he went on to Fort Scott, Kansas. There he worked as a kitchen helper and went to school whenever it was possible. Finally he opened a laundry and gave such good service that he had the good will of the entire neighborhood. Even though he had to work very hard to earn his living, the young man completed his high school course at Fort Scott.

George applied for admittance to a college in Iowa and was accepted. He spent his last cent to get to the college. Upon his arrival, however, he was refused admittance because he was a Negro. Although somewhat discouraged, he set about finding ways to earn his living but did not remain long in the town.

He moved to Winterset, Iowa. There a kind family

heard him sing, and admiration for his mellow voice led to an acquaintanceship. When his new friends learned that the young man liked to paint also, they encouraged him to continue the studies he had begun in both music and art.

Despite lack of money and the enduring of many hardships, Carver went on to Simpson College. While there, he worked and saved and later enrolled in the State College at Ames, Iowa. There he studied agricultural chemistry and learned a great deal about soils and plants.

After receiving a degree at Ames, he served on the faculty at the college. While doing so, he continued his studies and received another degree.

Dr. Booker T. Washington, head of Tuskegee Institute in Alabama, invited George Carver to teach at that great school for Negroes. Upon his arrival at Tuskegee, Professor Carver learned that a new laboratory had been built but that there was little equipment for it. He sent his students scurrying about for old bottles, discarded bowls, and other articles of which equipment might be made. Lack of something he wanted did not daunt this man.

Samples of soils were gathered, and plants that grew in the region were collected. Professor Carver conducted many experiments and soon he was ready to teach students how to improve the soil. He taught not only the students of the Institute but the farmers of the community as well. Carver made the work so interesting that many students who had intended to study mechanics changed their plans and studied the problems of the farm.

George Carver showed the people of Alabama that scientific farming is a business and that, if well conducted, it is a profitable one. He taught the value of producing different kinds of crops so that if one kind failed there still would be profit from others. He taught that in the things around them people might find valuable products if they knew how to look for such things.

Dr. Carver himself developed many products. From the clays of Alabama he made a blue paint very much like the famous "Egyptian blue." From peanuts he produced breakfast food, pickles, milk, "coffee," and candy. From the same source he made soap, ink, bleaching material, salve, medicines, face powder, wood filler, and paint. Then he used the peanut shells to make insulating material for buildings. The sweet potato, cotton, and other plants, too, have been the sources of many products made by Dr. Carver.

No great fortune has been amassed by this famous man because he feels that what he learns should be passed on to others without great profit to himself. When asked how he learned many of the important things he knows, he replied, "God told me." He thinks there is still much to be learned and refers to himself as a "trail blazer."

This amazing man has been offered positions in several great industrial plants. The salaries offered ran into five and six figures and would have proved irresistible to most men, but not to George Carver. When asked why he did not accept a position offered by the late Thomas A. Edison, Dr. Carver replied that his work at Tuskegee was not completed and that it was in the South he could be of greatest service.

Though born of slave parents in a war-torn nation, bereft of a mother's care, lacking health and physical strength during his early youth, George Washington Carver rose above his many handicaps and became a truly great man. He had ability which he developed in spite of great obstacles. He had faith in his Creator and a strong desire to serve his fellow men. It is small wonder that today the world has beaten a path to the door of this great Negro scientist.

#### ACTIVITIES

1. Mentally review the article. Reread if necessary.
2. Write a short summary of "A 'Blazer of Trails' in Science" as you would tell about him to someone else.
3. Name the three things from which Carver has made products of value.
4. Write the following list of words in a column on the left side of your paper. After each write a sentence in which the word is used. If you do not know the meanings of any of these words, look them up in the back of this book.

proclaimed

weary

reorganizing

destined

uttered

persuaded

orphaned

exposure

obtained

admittance

enduring

amassed

irresistible

obstacles

bereft

5. Use each of these words in two sentences in order to show different meanings. Compare the meanings you used with those used by your classmates.

spite

degree

wonder

care

face

rose

gang

last



## Toscanini

Read this short story about Toscanini so that you can tell someone else about him. Decide what two things in particular should be mentioned in your retelling.

In 1886 an Italian opera company toured South America. The conductor was not in very great favor with either the orchestra or the singers and when the company came to Rio de Janeiro, he suddenly announced his resignation. The opera scheduled for the evening was "Aida" and there was a full house. The director, pale and trembling, muttered oaths under his breath. Where at this late hour could he find another conductor?

A few of the orchestra men scrambled backstage to convey a discreet suggestion. Among their number was a young, bashful 'cellist—Arturo Toscanini by name—who had repeatedly proved that he knew the music of the operas remarkably well. Why not call upon him to direct "Aida"? Despair made the director receptive to any feasible plan. Soon a mere boy, wearing an evening suit far too large for him, nervously leaped upon the conductor's stand. He rapped his stick sharply and then, without opening the score in front of him, he waved the baton through the air. The men, swept by forces they could not understand, played as they had never played before. Something about the conductor electrified them, and as they played they seemed as though possessed by a Spirit.

The audience had never before heard an "Aida" such as this, and the young conductor, directing from memory at a moment's notice, stirred its imagination. During

the rest of the tour he was called upon to direct no less than eighteen operas—and to the speechless amazement of both audiences and musicians, never once did he touch a score.

Thus brilliantly was the name of Arturo Toscanini introduced to the music world. Since that time, his career has persistently risen to greater glory until finally, in 1930, came the greatest honor of all. He was the first foreign conductor to be invited to direct the Wagnerian opera at Bayreuth.

Among the world's conductors, Toscanini is probably the greatest virtuoso that ever lived. When we hear his Mozart, his Verdi, his Wagner, we are tempted to say of him what a critic once wrote of De Pachmann: "He is, after all, the master of all in his field; for the way he plays some things, no one can play anything!"

That during a conductorial career which spans four decades and a bewildering variety of works, he should never have resorted to the printed page in performance, and only rarely at rehearsals, is a phenomenon such as music history cannot parallel. He has been known to receive the score of a new work on Friday morning and read it in bed as though it were a book; on the following Monday he has gone to rehearsal knowing every note and every mark upon the page. He can put his finger upon a weakness of a score by merely glancing through it, and usually he knows the remedy. It has been said that he was compelled by necessity to develop his memory because, being nearsighted, he could never use a score unless he brought it up to his very nose. A memory like Toscanini's, however, cannot be developed simply through necessity.

A famous story told in connection with Toscanini's memory for detail of a score, is worth repeating. A double-bassoon player once went to Toscanini before rehearsal and complained that his instrument was defective and that it could not play the note of E-flat. Toscanini held his head in his hands for several silent moments and then, patting the musician gently on the shoulder, said: "That's quite all right. The note of E-flat does not appear in your music today."

Equally incredible as his memory is his ear, which is so sensitive that it can penetrate through the most complicated mazes of sound and unravel them. It is quite true that he can tell when one of his sixty violins is slurring an intricate passage. He knows precisely the quality that each section of the orchestra should attain, and even in the most complicated passages he can hear clearly whether the various instruments are giving voice to the exact quality he seeks.

Among the musicians of the present day, Toscanini is probably the most modest; he approaches music as a high priest approaches his religion, with self-effacement and unpretentiousness. He accepts applause as though it were some bitter medicine. That is because he honestly feels that applause diverts the tribute from the composer to the interpreter. He is scrupulous in adhering to the slightest intent of the composer; music, to him, is not for meddling. It is for this reason, too, that in his conducting he will resort only to the simplest gestures—a circular movement of the right hand, while the left hand is resting upon the hip, or else, in tender passages, pressed against the heart.

It is this approach to music that frequently makes

Toscanini so sentimental. There was, for example, the occasion of his performance of Puccini's "Turandot." Puccini died before concluding the score and although Franco Alfano (as Toscanini himself confessed) completed it admirably in the spirit of its creator, Toscanini refused to conduct, at the world's premiere of the work in Milan, any but the uncompleted version. In the middle of a phrase, the work came abruptly to a halt and Toscanini, turning around to the audience with tears streaming down his pale face, announced: "Here—here—the maestro died!" This, as those who know the man will attest, was not mere acting; it was the sincere gesture of one who loved the score and its composer.

There are times when the celebrated Toscanini temper manifests itself. Once, during a rehearsal, his sharp ear caught a violinist slurring over a very intricate passage in a Richard Strauss tone-poem and he flew into a rage in which the music stands were hurled on the floor. Sloppiness is a thing which he cannot learn to accept—sloppiness or indifference or apathy. Yet he can be the most gentle human being under the most trying circumstances. He has rehearsed a flute passage, for example, more than sixty times to get the flutist to express the subtle shadows that Toscanini found in the music, and without once having lost his temper.

He enjoys no happiness greater than having his orchestra perform beautifully. He will giggle like an adolescent and flush with contagious delight. When perfection is not attained, he reaches the depths of despondency. A passage badly played strikes him as stinging as the lash of a whip.

Working under Toscanini may tax the last ounce of

energy that the musicians possess, but they know his flaming sincerity, his simple modesty, his unaffected passion for great music, and his genius—and they worship him. What touches them most is the little man's crushing humility. Once at a rehearsal of Beethoven's "Ninth Symphony" Toscanini laid bare the soul of the music for the men. With his keen explanations he gave the musicians a new insight into the work. The men, overwhelmed by the realization that they had just been given an altogether new version of a masterpiece, arose as one man at the end of the rehearsal and cheered the conductor at the tops of their voices. The little man gestured wildly, desperately trying to arrest their enthusiasm. Finally, when their spontaneous cheering had subsided, he turned a pained face to his men, tears glistening in those brilliant eyes of his.

"Please—please—" he called out in a pathetic voice. "Don't do this to me. You see, gentlemen, it isn't me. It's Beethoven!"

### ACTIVITIES

1. Write two things about Toscanini which are most important to include in your summary.
2. Write a short summary of what you have just read about Toscanini as you would tell it to someone.

# Short Cuts to Friend-Making

by

FRED C. KELLY

As you read this article, keep in mind the most important parts so you may retell them.

For more than a dozen years Bob Davis has been an almost perpetual traveler, roaming as his fancy dictates, with instructions from the *New York Sun* to "see everything and write about it in your own vein." He will soon have done his millionth mile, and will have visited practically every region of the civilized world. Wherever Bob goes, he makes enduring friendships.

I wonder what gave Bob Davis this insatiable zest for friendship and for exploring the minds of his fellow travelers. I imagine it began when, as a young fellow in San Francisco, where he didn't know a soul, he was first employed as compositor on a newspaper. He formed friendships with his immediate associates, but still the contrast to his boyhood life in a small town was so great that he felt the need of a much wider range of acquaintance. His boarding-place was near a fire-engine house and he fell into the habit of dropping in there to visit the firemen. He made friends, too, with the policemen on the beat. Ever since then he has never failed to become intimately acquainted with the firemen and police in whatever neighborhood he happens to be living.

"If there's a fire or a burglar in my house," he once told me, "I want the man who comes to my aid to be a good friend."

Soon Davis had more opportunity to meet people,

for he suddenly became a reporter. The reason for this shift of occupation is a strange tale. He went one afternoon to witness the first baseball game he had ever seen. That evening the first piece of copy laid before him to be set into type chanced to be an account of that same ball game. Before he had completed the first paragraph, a gust of wind blew the sheet of paper out of the window and beyond the roof of a near-by building. Despairing of being able to recover the sheet and feeling that he had been careless in letting it fly away, Bob decided to say nothing about the mishap but to replace the loss in his own way. He began to put into type a description of the game as it had impressed him, hoping that it would be accurate enough for all practical purposes. Knowing nothing whatever about baseball, what he wrote was a bit startling. The next morning the general manager of the newspaper sent for him. Bob assumed, of course, that he was about to be notified of his dismissal. What the boss said was: "Boy, if you can write as funny stuff as that baseball story there's no use wasting you on typesetting. Beginning today you're to be a reporter."

Bob Davis got around and made plenty of acquaintances from then on. One night he wanted to go to a man's room at the Lucky Baldwin Hotel unobserved by other reporters. To accomplish this he telephoned to his friend, the chief engineer, and asked him as a favor to switch off every light in the building for two minutes. He had, as it happened, become acquainted with the engineer while riding beside him on a streetcar.

The more people Davis met, the more he wished to know. It occurred to him that he might find an even

better field for knowing more different kinds of folks if he got a job on a newspaper in New York. He arrived in the city knowing almost no one, but by the second day he had made several acquaintances. His first new acquaintances were a man and his wife who conducted a little restaurant where Bob had his first dinner. The husband was the cook, and Bob made a lifelong friend of him by going to the kitchen to tell him how much he enjoyed the meal. He found out how the man happened to become a chef and what kind of food he himself preferred.

"You never make anyone mad by complimenting him on his work," said Davis.

I doubt if Bob Davis has eaten many restaurant meals since then without using the opportunity to extend his human contacts. He learns the name of the waiter and from him the name of the proprietor. When he eats there again, he is not merely a customer.

After Davis had been in New York a short time, Bob counted that day as lost which did not bring him at least one or two new acquaintances; usually he added several to his list. To do this he did not trust to mere chance, but carefully planned and systematized his methods. He made it a rule to start a conversation with the man seated or standing beside him whenever he rode on a streetcar or subway train. To facilitate this, after leaving his office in the evening for the homeward journey, he regularly bought two newspapers; one to take home and read at his leisure, the other to give away. Then he tried to get alongside the most wide-awake looking fellow available, preferably one not yet supplied with a newspaper. As he vigorously opened



his paper, he apologized for getting it almost into the face of his neighbor, and then added as if on sudden after-thought: "Maybe you'd like to see part of this."

If the neighbor thanked him and accepted the offer, as nearly always happened, Bob pleasantly inquired: "Which part do you like—sports, stocks, editorials, or what?" Almost immediately then he could begin a little chat. If the seatmate preferred the sporting section, it was natural to ask: "Who do you think will win the big fight?" Or, if it was the financial pages, "Do you look for stocks to go higher?" Soon they were launched into an exchange of ideas and amity. Before they separated, Bob contrived, without seeming to be too inquisitive, to learn the man's name, address, and occupation. Sometimes he'd write these down on the back of an envelope, remarking: "I've enjoyed this little talk with you and hope we can meet again some day."

At the end of a few months of doing this, Davis had collected names of so many kinds of men that it was amazing even to himself. After fifteen years—and he did actually follow the plan that long—his list of names ran into many thousands, classified by locality and occupation. To this day, in his travels to all parts of the world, he employs much the same technique for meeting people on trains and boats.

"Nothing," he says, "is a better device for opening a conversation than an item in the day's news. One can speak of a startling newspaper headline without being considered fresh or inquisitive."

There is more to the Davis technique than just meeting people. He desires to know what is most worth while about them. To do this *he* must interest *them*.

Irvin Cobb, who has made many trips with Davis, says, "He interests others because he shows a genuine friendly feeling. It wouldn't be successful if he didn't really mean it; he's sincere about it and therefore makes friends without apparent effort, right from the start. Then, being himself one of the most entertaining talkers alive, he has a gift rare in good talkers—he knows when to keep quiet and let the other fellow express himself. He doesn't interrupt with a 'that reminds me,' but just sits back and listens, occasionally throwing in a question to start a further flow. I think he goes on the theory—and it's the right theory—that in nearly every human being there is a good story, if someone knows the knack of drawing it out. Certainly in every human being there is a character study."

Samuel G. Blythe, who made a trip around the world with Davis, adds: "He has no secret method of getting people to talk with him. His tools are these: a sympathetic, polite, but insatiable curiosity, a wide knowledge of the vagaries of human nature, a taking smile, a twinkling eye, a cordial approach, an ability to talk on even and understanding terms with anybody, from the master of a Chinese junk to the Duce of Italy. He speaks a universal language of good will, good humor, and sincere interest. His wide and friendly smile and outstretched hand are irresistible."

A man sharing a railway compartment with Davis remarked that nine out of ten people are bores. But Bob gradually drew out of him a strange tale of how he happened to devote his life to being an expert exterminator of rats all over Europe.

An Englishman on a boat said to Davis: "I was in

America once many years ago. Away back in 1869, one cold January night, I found myself in the town of Brownsville, Nebraska. I'll never forget it because I stopped at the home of the Episcopalian minister, and his wife served me a sandwich containing antelope meat."

"It might interest you to know," replied Davis, "that judging from the date and place, the woman who gave you that sandwich was my mother. About two months after your visit she bore a child and that child was myself."

On another boat he fell into conversation with a white-haired Englishman who said he had set out in life to be a mechanic and had once worked in the same shop with Charlie Chaplin. Then the man gave him his card. He was the Archbishop of Canterbury.

Asking the right question to get the inside story is often important. Davis obtained an appointment with Mussolini. Then an attempt was made by an assassin on Mussolini's life. Il Duce kept the appointment, however, and the first questions were: "Why don't you have more of a bodyguard? Why isn't your life better protected?"

To which Il Duce replied: "I am protected by God. I shall die a natural death."

That was the keynote to an interesting interview. It was so interesting, in fact, that the Associated Press made Davis an honorary life member of its staff.

One secret of the Davis friendships is his fondness for doing favors. If he's only offering a new acquaintance a cigar, he does so with such graciousness, with such evident pleasure in giving rather than receiving, that the gesture is impressive. If Davis is on a train and a

fellow passenger has lost his ticket or baggage, Bob is the first fellow to step forward to see if he cannot be of service. Nothing seems to be too much trouble for him if he can be helpful. One day he chanced to meet an elderly, white-haired woman who had come to New York for the first time from a distant village, to hear a Kreisler concert, only to learn that the entire house had been sold out for three weeks. Bob contrived by much telephoning to obtain a box seat for her and then arranged with his friend Kreisler to cross the stage at an appropriate moment and bow toward that particular box.

No matter how long it takes to do a favor, Davis doesn't forget it. In the Malay Peninsula he met a Scotsman who invited him to attend his wedding.

"If you're ever in Aberdeen," said the Scot, "I wish you would look up my father and sister and tell them about the wedding and what a nice girl my wife is."

"I won't forget it," said Davis.

It was several years later when he visited Aberdeen, but before he did any sightseeing, he hunted up that father and sister, told them all about the wedding, and then immediately wrote to the man in the Malay Peninsula about his family.

It might be mentioned that when there is no opportunity for doing an actual favor, this genius for friendship at least displays great courtesy. If you are leaving him after a call at his office or hotel room, he is fairly certain to accompany you as far as the elevator.

Before parting from a new acquaintance, Davis aims to tell him something that will make *him* remember the meeting. This may be an amusing anecdote, a piece of

news, a little known fact, or a bit of information of peculiar interest to that particular person. When starting to make a photograph of Bernard Shaw, he remarked: "Don't you think, Mr. Shaw, that a man often appears in his picture to be a greater man than he really is?"

"That couldn't be true in my case," replied Shaw, "because there is no greater man."

"I was thinking," said Davis, "of Satan. Your countenance from one angle is a bit Mephistophelian."

Shaw blinked and observed: "It will be difficult to get a good likeness of me in a photograph because you can't show my blue eyes."

"But, Mr. Shaw, your eyes are not blue," earnestly declared Davis, "they're purple."

"I never knew that before," said Mr. Shaw. Surely *he* still remembers Bob Davis.

"Many people supposedly inaccessible are often lonely and would like to be seen if their secretaries would permit it," says Davis.

Then he told of his difficulties in getting by a secretary to see Dr. Von Mueller, curator of a famous museum in Munich. When he finally got in, Von Mueller said: "I've been here eighteen years and you're the first American who ever showed me the courtesy of calling on me."

Davis first met Thomas A. Edison by calling at his office without an appointment and telling Mr. Meadowcroft, his secretary and chief assistant, "I've heard that Mr. Edison smokes the worst cigars made. But I'd like to give him one even worse than he's used to." He handed Edison the "worst cigar" and received from the smiling inventor one in exchange, which he still keeps. That

was the beginning of a long friendship. Of all the thousands of people Davis has known he still considers Edison the most interesting.

"And having been everywhere on earth," I once asked him, "what spot do you like best?"

"A woman once asked me that," was the reply, "and I started to write her a long letter about various places I liked. But after I had written three pages I found that I could tell her in a sentence. This was it: 'I like best the place where I happen to at the moment.' If you aren't lucky enough to feel that, you miss much of the joy of life. It would be too bad to go through life wishing you were somewhere else."

That's Bob Davis!

### ACTIVITIES

1. Mentally review the article. Write a brief summary of the story as you would tell it to someone.
2. Write a sentence or two explaining the secret of Davis's ability to make friends.

## Third Test of Reading Speed

Place a sheet of paper and a pencil on your desk. Then read these directions carefully.

1. Read the story of Sir Isaac Newton at the rate of speed you usually use for informational reading. Your chief purpose will be to secure the most important facts connected with Sir Isaac Newton's life in as brief a time as possible.
2. At the end of the article you will be required to answer twenty questions about the life of Sir Isaac Newton.
3. As you read, your teacher will indicate on the blackboard the amount of time that has elapsed since you began to read. When you finish, glance at the board and copy the *last time* recorded. That will be your *time score*.
4. As soon as you have made a note of your time, attempt to answer the twenty questions at the end of the article. Do not refer again to the article even if you are unable to answer some of the questions.
5. When your teacher gives the signal, you may compare your answers with those in the back of the book on page 554. Each correct answer will count five points on your comprehension score. The best reader will be the pupil who has the lowest time score and the highest comprehension score.

*Remember, your only purpose is to secure the most important facts about Sir Isaac Newton's life in as brief a time as possible.*

## The Greatest Genius That Ever Lived

Little Isaac Newton was not called *Sir* in his early childhood. That title was given to him by a grateful England, after he had earned the description of "the greatest genius that ever lived."

As a boy, Newton gave little promise of becoming a world-famous figure in the field of science. His father had died just before little Isaac was born, in 1642, on the farm in England which had been in the family for more than a hundred years.

At twelve years of age, the frail Isaac was sent to a neighboring village to attend school. He was not popular with his classmates because he preferred to read scientific books and to perform little experiments rather than to enter into their games. He was a poor student; in fact, he usually occupied the last seat in the class. One day, by giving Isaac a kick in the stomach, a bully changed Isaac Newton into a fine scholar.

Probably the fact that Isaac was a frail boy was the reason the bully thought it was safe to kick him. As soon as Newton recovered his breath, however, he challenged the kicker to a fight. By sheer determination Isaac defeated his larger classmate. Even though the bully was licked, Isaac felt he had not been punished enough. The big boy was the brightest boy in the class and Isaac determined to take away from him his first rank in scholarship. When the school year ended, Isaac was seated in the first seat, with the bully in the seat behind him,



Even as a child, Isaac was inventive. One day he constructed a water clock. A hollow cylinder, filled with water, was made so that drops of water fell at regular intervals. As the level of the water in the cylinder became lower, a wooden float sank with it. As the wooden float was lowered, it moved the hands of the clock. Another invention of his was a mill, which was run by mouse power. A live mouse, running on a treadmill, made the wheels go round.

Isaac did not work all the time. He had his moments of fun, too. The people in his village were terror-stricken one night to see a huge comet with a fiery tail riding directly overhead. Not until later did the frightened villagers discover that the "comet" was one of Isaac's kites with a paper lantern tied to its tail.

One day in school the questions, *How fast is the wind moving? How can the speed of wind be measured?* "popped" into his mind during a spelling lesson.

The little scientist tried to measure the force of the wind. He built a jumping pit and with the wind against him, he jumped as far as he could. Then he jumped with the wind at his back. Subtracting his first jump from his second jump, he could speak seriously of a "strong three-foot wind" or a "heavy five-foot gale."

His mother, who owned some land, wanted Isaac to become a farmer, but the boy did not care for that life. While he lay near the potato patch solving mathematics problems, the weeds grew high and the cows ate or trampled the corn. Realizing that her son would not be a good farmer, Mrs. Newton sent the boy to Cambridge University, where he could prepare himself for a more suitable career.

It was on his uncle's farm, where Isaac was spending his summer vacation, that an apple, which fell from a tree, caused the boy to ask, "Why does the apple fall down and not up?" Scholars had always said, "The force of gravity pulls it down." The word "gravity" did not answer the question for Isaac. He wanted to know what made the force of gravity work.

"The apple falls to the ground," he said to himself. "That is gravity. The moon has to revolve around the earth. That also is gravity. Why doesn't gravity pull the moon down to the earth, as it pulled down the apple? It must be because the force of gravity is weaker the farther away the object is from the earth."

With his pencil, Isaac began to figure. He finally decided that the pull of gravity might be the inverse square of the distance between two heavenly bodies. To check his method he used the figures in his geography, which said that the circumference of the earth was 21,000 miles. Suddenly he laid aside his pencil, saying, "My method must be wrong. According to my figuring, the moon would require thirty-four days to go around the earth. It doesn't, though; it takes only twenty-eight."

Newton, believing that he was wrong, put away his papers. Fifteen years later a friend mentioned to him that a Frenchman had proved that the earth was 25,000 miles in circumference, not 21,000 as had formerly been believed.

Newton rushed home. He got out his papers and checked his method, using the new figures. He gave a cry of joy when he discovered that he had been right. He had discovered the true law of gravitation fifteen years earlier.

Newton was satisfied. He knew what gravity was, but he never thought to make public his discovery. A few years later Halley, the great astronomer, visited him.

"We need your help, Newton," Halley said. "We can't figure out the shape of the path taken by a planet in going around the sun."

"The shape is an ellipse," declared Newton.

"How do you know?" asked the amazed Halley.

"I've worked it out," answered Newton.

When Halley saw Newton's figures, he demanded that they be printed. He demanded, too, that Newton's other scientific discoveries be published. When Halley left Newton, he took with him all of Newton's writings and published them at his own expense.

An apple falling on any other head would have produced only a bruise. Because, however, the apple fell on the young head of one who was to become known as "the greatest genius that ever lived," the fall led to an understanding of the way in which the powerful force of gravity works.

#### CHECK YOUR COMPREHENSION

A. Number your paper from one to ten. Beside each number place T if the statement is true, F if the statement is false.

1. Sir Isaac Newton's father was a nobleman and an adviser of the King.
2. A kick in the stomach made Isaac a good student in school.
3. Isaac's mother wanted him to become a farmer.
4. The geography books in Isaac's day were not

correct in their statement regarding the circumference of the earth.

5. Newton thought that a planet revolved around the sun in a perfect circle.
6. Newton every few weeks published in scientific magazines everything that he had written.
7. Halley, the great astronomer, once came to Newton for help.
8. A clock that worked by water was Newton's greatest contribution to the world.
9. It is the force called gravity that pulls an apple from the tree to the ground.
10. Newton at first did not realize that he had solved the law of gravity.

B. In each statement given below are three possible completions. Only one is correct. Number your paper from one to ten. Beside each number on your paper place the letter that precedes the correct completion.

1. All of Newton's writings were published (a) by his mother; (b) by Newton in scientific magazines; (c) by Halley.
2. Newton proved that the path in which planets revolve around the sun is (a) an ellipse; (b) a circle; (c) an irregular, jagged curve.
3. Newton's greatest contribution to the world was his (a) perpetual motion machine; (b) his method of measuring the force of wind; (c) his discovery of the law of gravity.
4. Newton's mother sent him to college to (a) study law; (b) find a career suited to his abilities; (c) become a teacher.

5. Newton in early life measured the force of a wind by (a) jumping with the wind and against it; (b) using an instrument which ran by water; (c) using the law of gravity.
6. Newton thought his law of gravitation was wrong because (a) he did not know the true circumference of the earth; (b) Halley said it was wrong; (c) he could not measure exactly the speed with which the apple fell.
7. Newton as a child punished a bully by (a) telling the boy's father; (b) defeating him in an election; (c) beating him in scholarship.
8. Isaac was not popular with his schoolmates because (a) he preferred reading to playing games with them; (b) he was very frail; (c) he was a poor student.
9. One night Isaac frightened his neighbors by (a) telling them the world was coming to an end; (b) predicting a terrible storm; (c) flying a kite with a lantern tied to its tail.
10. One of Isaac's boyhood inventions was (a) a mill run by mouse power; (b) a fire engine that worked by steam; (c) a new type of gunpowder.

*Check your answers with those on page 554*

### ACTIVITY

Read a newspaper or magazine article and write brief notes on it. Organize your notes so that your teacher or a classmate who reads them can get an idea of the main points in the article.

## Securing Patents

Five divisions of our Federal Government are discussed in the articles you are to read next. As you read each article, you will be asked to take notes on the information given or to make an outline of its content.

After reading this article, jot down notes on parts that you think are important to remember.

The founders of the Constitution were very wise men. They seemed to realize that inventions would play an important part in the future life of the great country which they could see only in their dreams.

The Constitution provided protection for inventors. Because of a guarantee of exclusive right, no one could copy and use inventions unless he had permission from the owner. The owner could permit the use of his invention and could charge a sum of money, called a royalty, for the use of it.

The rapid industrial and scientific development in the United States is largely the result of the protection given to inventors by patents. Without a patent the men who invented the radio would have secured no profit from their great creation; Bell's long work on the telephone would have brought him no personal gain. Many men would not feel the urge to make improvements, if there were no hope of a reward for their efforts.

Even before the United States became an independent country, the individual colonies granted patents. Two of the earliest patents given were for a new method of making salt and for an "engine for the more speedy cutting of grass."

The Secretary of State is now in charge of the patent system. The Patent Office grants two types of patents, or "letters of patent," as the certificate is called. First there is a patent of invention, which gives the inventor exclusive rights to make, use, and sell any new and useful article, process, machine or composition of matter for a period of seventeen years. This patent can be renewed only by a special act of Congress. The inventor has the right to assign his patent to anyone he wishes. It may be inherited by anyone he names as his heir.

Among the early patents granted were those for the cotton gin in 1793 and for the steamboat in 1809. In later years Thomas Edison was granted more than 1,000 patents, and everyone is familiar with the many benefits mankind has gained from them.

The second type of grant made by the Patent Office is the patent of design. This gives to the designer exclusive right on his design which may extend for a period of 3½, 7, or 14 years, depending upon the request of the designer. This patent also can be renewed only by a special act of Congress. An example of the patent of design is that granted to the Daughters of the American Revolution. It was first granted in 1891 and has been renewed by a special act of Congress every fourteen years.

Anyone may apply for a patent. In his application, the inventor must present a written description and a drawing of his invention, together with the uses he thinks can be made of it. A fee must accompany the application; the inventor must sign a statement that the invention is original and that it has not been copied from a design made by anyone else. The patent office then

conducts a search, to make sure that no invention already patented is like the one being submitted. After the search, a patent is issued, giving the owner the right to make and sell his invention for seventeen years. If anyone sells the invention without his permission, the inventor may sue that person in court. All articles for which patents are granted must be marked "patented." The year the patent was issued must also be shown.

The Patent Office contains sixty-five divisions. Each division takes care of a particular kind of invention. An invention connected with the automobile would be considered by a division of patent officers who are specialists in that field; a new type of mousetrap would be considered by another division.

Approximately 1,000 American patents are issued every week, and the number is steadily rising. By April 13, 1939, exactly 150 years after the adoption of our Constitution, 2,206,923 patents had been granted. In the last forty years more patents have been granted than had been issued in the entire preceding century. In 1937, 37,695 patents were granted; in 1938, 38,976; in 1939, 43,030.

Since each applicant for a patent pays a fee of \$30.00 when he applies for the patent and another fee of \$30.00 when the patent is granted to him, the Patent Office collects a large sum of money for the Government. In 1939, 43,030 patents were granted for which the Patent Office collected \$2,581,800. It receives additional income from patents of design, trade-marks, and labels.

The greatest number of inventions have dealt with transportation. The development of the automobile, for instance, brought with it a great flood of gadgets, such



as sirens, horns, locks, lights, mirrors, mudguards, wind-shield wipers, foot warmers, bumpers, radiator caps, speedometers, and many kinds of gauges. With the airplane has come almost an equal number of new attachments—some useful, some merely ornamental, and some useless. Patents are granted for all kinds of devices.

Large companies own many patents. Workmen tending machines often work out methods for improvements. The companies for whom the men work usually buy the inventors' patents. They may buy a patent for a lump sum or may agree to pay the inventor a royalty. An inventor who receives a royalty gets a certain amount for each of his articles that is sold.

Some companies employ inventors to work for them. Salaries are paid to these specialists while they try to invent better machines. The companies also purchase for the inventors the necessary equipment and materials. In such cases, the companies own all the inventions produced. They expect that whatever inventions are made will be worth more than the salaries paid to the inventors. Sometimes, however, no profits are made.

Many strange inventions have been patented. One person received a patent on an instrument that will help in finding keyholes in the dark. Another device will enable people buried alive to signal to persons above the ground. Another invention is a smoker's pipe, fastened to the stem of which is an ash tray which the smoker could not possibly use. Still another inventor has a patent on a device which consists of broad wooden paddles that can be strapped on a swimmer's arms for the purpose of propelling him through the water more rapidly.

Not all inventors are men. Each year greater numbers of women secure patents. Their inventions do not deal entirely with improvements for the home, as some persons might expect. Included among women's inventions are a mousetrap, an automatic pistol, a funeral car, a sea compass, an alarm clock, and a turbine engine.

There is some reason to think that Americans are the most inventive people in the world. One-third of all the patents issued throughout the nations of the world have been granted by the United States Patent Office. France is second in the number of articles patented.

Twenty-seven of the most important countries of the world have agreed that a citizen who patents an invention in one country may enjoy patent rights in all other countries. Thus a Frenchman who patents an invention in France may charge an American company royalties if it uses his invention. In war time, however, patents are not protected. During the World War of 1914-1918, for example, the United States gave to American factories over 20,000 German inventions that could be used in the making of war materials. German inventors secured no royalty for the use of the devices.

The large number of patents that have been issued in this country and the importance of new inventions in changing the United States from an agricultural nation to the greatest industrial nation in the world, have proved the wisdom of the action of the Constitution makers when they provided that inventors should be protected in their right to enjoy some of the profits growing out of the use of their inventions. Such protection is one of the valuable contributions of a democracy to its people.

## ACTIVITY

Look over your notes before taking the following test on the thought in this article. Then answer these questions:

1. Approximately how many American patents are issued each week?
2. In what Federal department is the Patent Office?
3. How many divisions are there in the Patent Office?
4. The citizens of which country hold the largest number of patents?
5. A patent lasts for how many years?

*Check your answers with those on page 553*

## The Department of Labor

Skim this article rapidly. Then reread it and take notes on the work performed by the Department.

The Department of Labor, through its fine work, has become one of the most important branches of the American Government. From its reports one can get a fairly accurate picture of many phases of American life at regular intervals.

Probably the Department of Labor is the least known of all Government departments. Everyone will agree that the workers of the nation are a sufficiently large and important group to be represented in the President's Cabinet. Few persons, however, know the three types of work performed by the Labor Department.

The idea of having Labor represented in the Cabinet was first suggested in a meeting of labor leaders at Louisville, Kentucky, in 1865. At that time, people laughed at the idea, but in 1869, Massachusetts took a step in this direction by establishing a state labor bureau. In 1884 the United States Government established a small division in the Department of Interior and called it the Federal Bureau of Labor. In 1903 commerce and labor were joined as one department, with one representative in the Cabinet. It was not until 1913 that this Department was divided into the Department of Commerce and the Department of Labor, each with a representative in the Cabinet.

Although the Department of Labor was the last to be represented in the President's Cabinet, it was the first

to be represented by a woman. In 1933, Miss Frances Perkins became the Secretary of Labor.

The chief work of the Department is protecting the interests of the American worker. Some of the following projects indicate types of work undertaken.

1. Discovery of the way the average American workingman's family spends its income. The following table<sup>1</sup> shows how a wage earner in Detroit, Michigan, or in Richmond, Virginia, who has an income of about \$1,500, spends his income. The Department also learned that the average workingman's family contained five persons, usually husband, wife, and three children.

<u>Item</u>	<u>Detroit</u>	<u>Richmond</u>
Food .....	32.3%	29.4%
Clothing .....	11.8%	10.9%
Household operation .....	10.4%	12.7%
Housing .....	15.1%	16.4%
Furnishings and equipment.....	4.0%	3.9%
Transportation .....	10.7%	8.8%
Personal care .....	2.0%	2.0%
Medical care .....	4.1%	5.4%
Recreation .....	5.8%	4.9%
Education .....	.6%	.6%
Vocation .....	.2%	.1%
Community welfare .....	.9%	1.8%
(including church)		
Gifts .....	1.6%	1.8%
Miscellaneous items .....	.5%	1.3%
	<u>100%</u>	<u>100%</u>
Dollar income .....	\$1593	\$1542

<sup>1</sup>Statistics: United States Bureau of Labor Statistics (1939-40).

2. Finding changes in the cost of living. On the fifteenth of every month, 1,500 retail stores, 200 bakeries, 230 retail coal dealers, 80 gas companies, and 225 dry goods companies send to the Department the prices of articles that are needed by practically all families. Every month the Department can tell whether prices are rising or falling. It can tell also how much money the average workingman's family needs in order to live comfortably. During some months more money is needed than other months because of rising prices.

The results of these studies are very valuable in conferences between employers and employees when each group is trying to arrive at a fair wage rate.

3. Publication of reports on hours of work and wages paid in all industries. Both union and nonunion workers are studied.

This material is also used in conferences between workers and employers. Wage scales are often based upon the figures published in the reports.

Congress uses the information in making up tariff rates. Wage scales, usually higher in this country than in other countries, are carefully studied by Congressional committees entrusted with the task of formulating and recommending tariff rates that should apply to articles imported into this country. One of the purposes of the tariff is to prevent United States producers from being undersold by foreign competitors.

4. Collecting information on unemployment. Every month 5,000 companies in many different industries send in reports showing the number of persons employed and the amount of wages paid. These figures are compared with the figures of the same month of preceding

years. The results show whether employment is increasing or decreasing in the nation as a whole, and in separate industries. They show, too, that the production and therefore the employment in certain industries are governed by seasonal demands.

Employers use the results of these reports. One bathing suit manufacturer, whose factory usually lay idle from September to February, decided to make topcoats in his idle months. By doing so he kept his plant running and his employees working.

An overcoat manufacturer built a factory in a large farming district. During the winter months people of the region work in the coat factory; in summer they work on their own land.

Many employers watch the reports of the Department of Labor to discover how much merchandise will probably be bought in future months. When employment is high, more merchandise will be sold because the people will have more money. When employment is low, manufacturers cut down the amount of merchandise they will place on the market.

5. A special Women's Bureau studies the conditions of women in industry—types of work they do, working conditions in their places of employment, wages they receive, how many hours they work.

The Bureau tells employers the average wages received by women and the conditions under which women work best. It studies the laws regulating the employment of women. It shows young women, just out of school, what they may expect if they enter certain industries—wages, hours of work, chances of promotion, and other facts.

6. A Children's Bureau studies the health of babies. Its first task was to discover the causes of the high death rate among children in the first year of life. Its report turned the attention of the nation to the fact that low wages, poor care, and poor shelter were causing a great many unnecessary deaths. The Bureau began publishing bulletins explaining to mothers the best methods of caring for children. More than a million mothers asked for copies, and the death rate slowly fell.

7. The Children's Bureau studies the problems of child workers. Believing that children between ten and sixteen years of age should be in school rather than in industry, the Bureau used its influence to get Congress to pass a law in 1916, regulating child labor. The law was passed, but the Supreme Court declared it unconstitutional. Later a similar law met the same fate. A bill proposing an amendment to the Constitution abolishing child labor was passed by Congress in 1924, but up to this time a sufficient number of states have not ratified it.

8. The Bureau of Immigration, one of the divisions of the Department of Labor, examines foreigners who come to America. In normal times, the Bureau must see that no nation sends more immigrants than it is permitted to send. Its agents must see that no diseased or insane person enters; that persons who, because of lack of money are likely to become public charges, are sent back, and that those who are unable to read some language, either English or their own, are refused entry.

A small staff of Labor Bureau agents patrol the seas and the nation's borders to prevent foreigners from getting into the country without permission.



9. The Bureau of Naturalization, one of the divisions of the Department of Labor, helps to educate immigrants and to prepare them for citizenship. Almost 200,000 have been admitted to citizenship in some years.

10. The Department tries to help employers and employees to settle their quarrels. When workers go on strike, they lose their wages, the employers lose their profits, and the public loses the services provided by industry.

11. The United States Employment Service, one of the divisions of the Department of Labor, helps workers to find jobs, and employers to find workers. In offices located in all the principal cities, jobs are found and workmen placed without charge to either the employer or the employee.

Although the Department of Labor does not often step into the public limelight, it performs four large groups of activities that are essential to the welfare of the nation. These can be summarized as (1) its fact-finding service, which is concerned with gathering information regarding wages, living costs, family budgets, unemployment conditions, working conditions for women, health of babies, the amount of child labor and the conditions under which children work; (2) its supervision of immigration and of the procedures by which immigrants become citizens; (3) the improvement of relations between employees and employers; and (4) the maintenance of an employment service through which the unemployed can make contact with employers.

The Department of Labor has been given new duties as time and conditions require. For example, in 1940 the National Labor Relations Board, commonly known

as the NLRB, was created by an act of Congress. The purpose of this Board is to aid in the settlement of employer-employee differences or disputes. The NLRB can order and conduct hearings on labor disputes and can hold elections of employees in plants to determine which group of employees has the right to bargain with the employer. Since its beginning in 1940, the NLRB has handled 28,132 cases, involving 6,147,000 workers. During this time it has held more than 3,000 plant elections.

Another service which the Department of Labor provides for industry is the conciliation and mediation service. The United States Conciliation service as a division of the Department of Labor settles many disputes and thereby avoids strikes. Conciliation is an attempt to settle labor differences before a strike is called. If conciliation fails and a strike is called, then the two parties may call in a mediator who will hear both sides of the case and suggest a way to settle their differences.

#### ACTIVITIES

1. Refer to your notes and list the types of work performed by the Department of Labor.
2. Use each of these words in a sentence. Use a dictionary if necessary to get correct meanings.

include	intervals	practically
borders	establish	conferences
accurate	interests	merchandise
employee	promotion	sufficiently
separate	permission	representative
regulate	immigrants	administration

## The Supreme Court

Read this article to see what powers the Supreme Court has. When you have finished make an outline of the article.

The President has a term of office of four years, the Senators a term of six years, and the Representatives a term of two years. Justices of the Supreme Court hold their offices for an indefinite period, because, once appointed, a justice cannot be removed from office, as long as he does not commit a crime.

A Supreme Court justice may retire when he is 70 years of age. If he has already served ten years, he will receive full pay as long as he lives. Most justices, however, prefer to work on as long as they are in good health, whether or not they have passed 70 years.

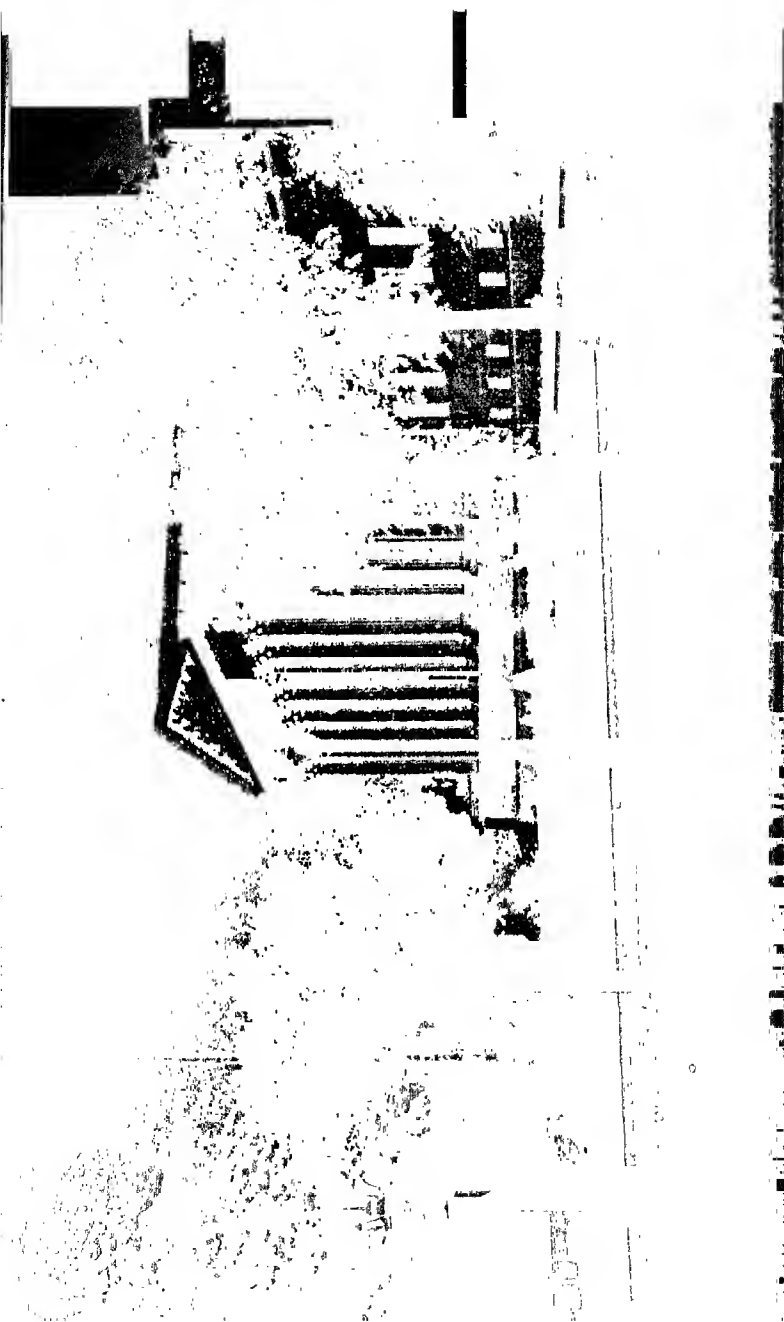
There are nine members of the Supreme Court. Eight of them are called justices, and the ninth, who presides at the court sessions, is called the Chief Justice. All justices are appointed by the President with the approval of the Senate. Justices can be appointed only when a vacancy occurs because of the death or retirement of one of the members, so they are not all appointed at the same time. Sometimes, during his term of office, a President does not have an opportunity to appoint even one.

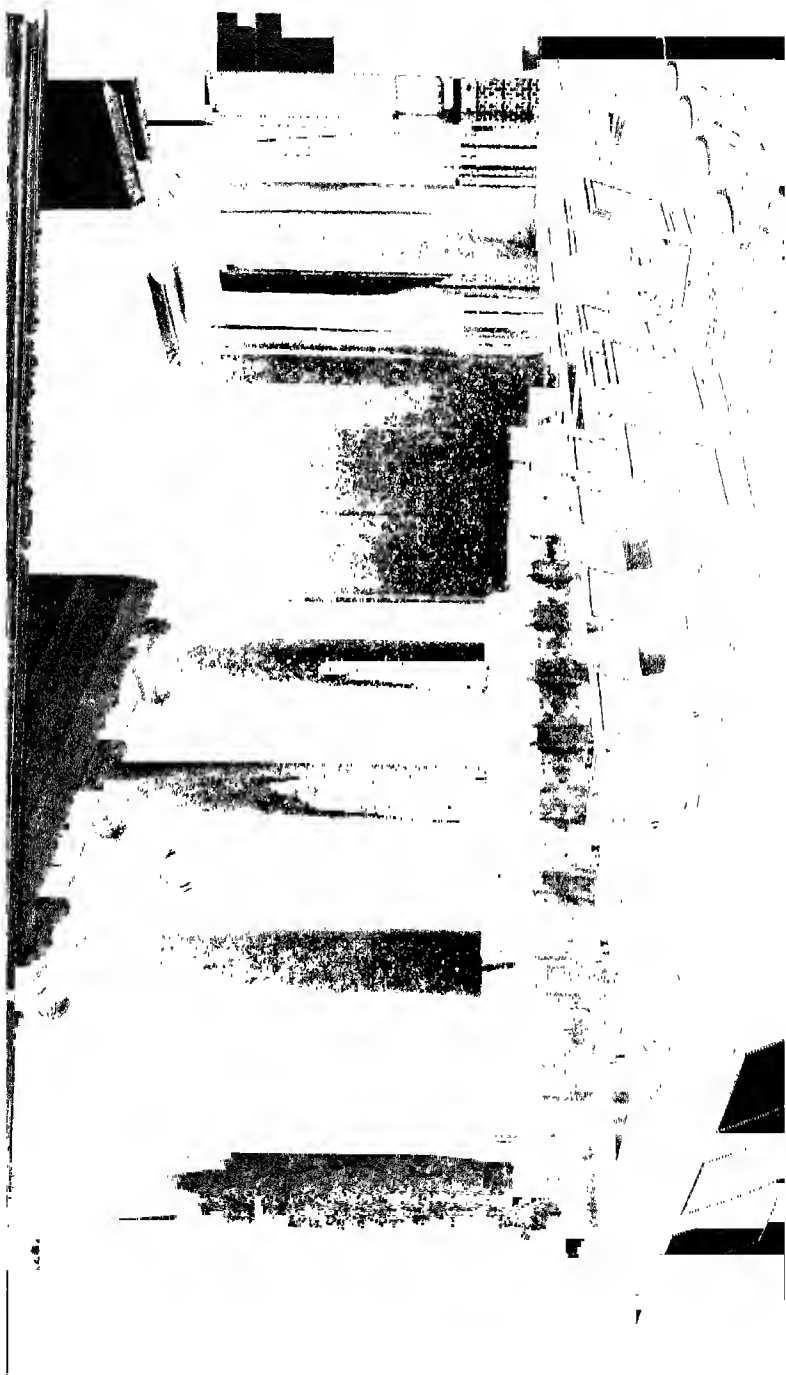
In all the world there is no body of men quite like the United States Supreme Court. England has a similar court, but it differs in that members must be removed by the King, upon the request of Parliament.

In 1804, a United States justice was almost removed from the Court. Justice Samuel Chase was charged with "high crimes" and was brought to trial. As is customary in such proceedings, the Senate tried the case. Justice Chase was declared innocent of the charges against him. At no other time has a Supreme Court justice ever been tried while in office.

After a case arises under a law passed by Congress and signed by the President, the Supreme Court may "throw out" the law. It "throws out" a law by saying that, in the Court's opinion, the law should not have been made because it is in conflict with the Constitution. Since the Constitution is a set of fundamental laws which were accepted by the people when the nation was first started and supplemented at various times by amendments passed upon by the people, the Supreme Court refuses to permit a law to be enforced when it says the law is "unconstitutional."

When the new nation was being organized, the Supreme Court had many puzzling cases to solve. These cases arose relative to powers about which the Constitution was not clear. The Constitution gave Congress the right to borrow money, but there was nothing to say it could establish a bank. Even though treaties could be made with other countries, the Constitution did not grant the Government the power to buy a large section of land such as the Louisiana Territory. Chief Justice Marshall, one of the greatest Chief Justices of all times, always tried to decide what the makers of the Constitution would have thought about a law. The decisions made by Marshall and other Chief Justices are now considered almost as valuable as the Constitution.





The Supreme Court is in session from October to June, with short vacations at Thanksgiving, Christmas, and Easter. It convenes daily at noon and adjourns at 4:30. Each Monday, according to a long established custom, the Court hands down its decisions or judgments on the cases heard during the preceding week. The rest of the week, except Saturday, is spent in hearing lawyers argue new cases. On Saturday, the justices discuss arguments to which they have listened.

When the United States Supreme Court is in session, each justice wears a robe of black silk. The Court sits at a high desk in the courtroom of the Supreme Court Building in Washington, D. C. The Chief Justice sits in the center chair, with the others on his right and left. Those who were appointed last sit at the far ends.

The way in which cases are tried in the Supreme Court is interesting. Everyone in the Courtroom stands when the robed justices enter. A crier announces that the court is about to convene. The first case is called. Lawyers on both sides give their arguments. Sometimes, while the lawyers are speaking, the justices seem to pay little attention to what is being said, but they seldom miss a word. The prosecuting lawyer speaks first. Sometimes, when the lawyer finishes, the justices tell him that his arguments are incorrect and that there is no use continuing the case.

After the lawyers have finished arguing the case, the justices receive printed copies of the arguments. These they take to their offices to study. On Saturdays they usually come together and each justice states what he thinks of the case. When they have discussed the case fully, the Chief Justice calls the roll, and each member

votes *yes* or *no*. The Chief Justice then asks one of the members to write the opinion of the Court, giving reasons for its opinion. When the opinion has been written, the justices meet again to discuss it. They may accept the opinion, reject it, or change it.

Sometimes the justices disagree. When five members agree, however, their opinion is accepted as the decision of the Court. The others may write a dissenting opinion showing why they disagree. Both reports are printed.

The printing of decisions is done by Supreme Court printers, a little group of faithful employees who have had the same job for dozens of years. These men could sell, for thousands of dollars, the news of the opinions they are printing. The Court realizes that this temptation exists, so despite the fact that each man is fully trusted, the court does all it can to prevent "leaks." It gives to each printer only a small part of the report to set in type. The parts are then grouped together by the foreman and are printed.

The Supreme Court is the highest court in the land, and its decisions are final. It has both appellate and original jurisdiction which means that some cases are brought to this court directly, but other cases which it hears come to it from other courts.

The chief tasks of the Supreme Court are to pass upon decisions of lower Federal Courts when the following points are in question:

1. The meaning and constitutionality of the national laws.
2. Supremacy of national laws over state laws.
3. Disputes between states.
4. Disputes between state and national governments.



5. Issues between citizens of different states.
6. Issues concerning foreign representatives of the United States.
7. Protection of people against illegal or unconstitutional state or Federal laws.

The Court has original and exclusive jurisdiction in:

1. Suits between states.
2. Suits against ambassadors or public ministers.
3. Suits brought by United States or a foreign state against one of our states.

The Court has original but not exclusive jurisdiction in:

1. Suits against consuls.
2. Suits brought by a state against a citizen of another state or against aliens.

A few types of cases may be appealed to the Supreme Court directly, as: cases regarding Federal law, cases where state law is still held to be unconstitutional after the case has been heard by the lower court. Others can only be appealed by the consent of the Court. This consent is granted if the lower Court has not followed proper judicial procedure, or in case of conflict of opinion among the judges of the various Circuit Courts on some subject matter. In 1928-29, 680 petitions were submitted to the Supreme Court and 95 were granted.

During the last few years some people have become quite bitter against the Supreme Court. They say that the Court should not have the power to declare the laws of Congress unconstitutional. It is their claim that the Supreme Court prevents Congress from acting quickly when a sudden need for new laws arises. Other people, eager to make the Court less powerful, urge that laws

should not be declared unconstitutional unless two-thirds of the Court agree in the opinion. Too many decisions, they claim, are being made by a 5-4 vote of the Court. As a matter of fact, however, out of more than 25,000 laws Congress passed between 1789 and 1939, the Supreme Court has found less than 75 of them or parts of them to be unconstitutional.

There are other people who state that the Supreme Court is doing just what it is supposed to do. Its purpose, they say, is to make changes in our national life come gradually, so that the people have time to study each move.

The privilege of making changes in the Constitution by amending it is always open to the people. Because that is true, laws that have been declared unconstitutional may be brought back on the records. Such a re-enacting of law occurred in the case of the income tax law. Congress passed the law and the Supreme Court declared it unconstitutional. Then the people adopted an amendment to the Constitution which allowed Congress to tax incomes. Today the income tax law is constitutional, because the people changed the Constitution to permit such a tax to be imposed by Congress or states.

#### ACTIVITIES

1. On a sheet of paper write short sentences to answer these questions:
  - a. What is the term of office of a Supreme Court justice?
  - b. What is the chief task of the Supreme Court?
  - c. Who selects the Supreme Court justices?
2. Make a topic outline of the article. Be sure you use the standard form shown on page 285.

## How the Federal Government Is Supported

Make notes of the important information contained in this article.

Uncle Sam is one of the most important business men in the world. He carries on most of his business through the Treasury Department, which is directed by the Secretary of the Treasury.

The Treasury Department is the pocketbook of the United States Government. It makes and spends millions of dollars each year. It pays out money to every other governmental department. It receives money from many sources. The Treasury Department is divided into several smaller departments. One of the most interesting of these is the Bureau of Internal Revenue, which collects taxes on liquor, tobacco, and incomes.

It was Alexander Hamilton, first Secretary of the Treasury, who suggested a tax on liquor. At that time the new country needed money to pay the debts of the Revolutionary War. The mountaineers of Western Pennsylvania did not like the new tax, and they refused to pay it. President Washington had to send a small army to force the payment. Ever since the "Whiskey Rebellion," as it was called, people have agreed that the United States has the power to tax articles sold within the country.

As time passed, Federal taxes were placed on other articles. Tobacco was one of them. The Treasury Department collects more than \$400,000,000 each year from cigarette smokers, and the amount is increasing.

For many years more money was received in taxes than was needed to run the Government. It was thought unwise to have a surplus of money piled up in the Treasury Department, so Congress passed a law to legalize the distribution of the surplus money to the states.

Since the Civil War, however, the Government expenses have mounted steadily. New taxes had to be found. In 1913 the Constitution was amended to give the Government the right to tax incomes. The income tax brings in much more money than did either the liquor tax or the tobacco tax. A person is assessed according to the amount of income he receives. Congress considered this tax fair because the rates are fixed so that a person pays a tax in proportion to the size of his income. The larger one's yearly income is, therefore, the greater will be the amount of money paid to the Government. Not every person pays an income tax; it is paid only by those who receive incomes over a certain minimum amount set by the Government. Every American citizen, whether he lives in the United States or in a foreign country, is subject to the payment of an income tax, if his income is within the amount prescribed by law.

In addition to the liquor tax, the tobacco tax, and the income tax, the United States helps to support itself by the collection of taxes on goods imported into this country. The tax, or duty, on imports is called a tariff. More than half a billion dollars is collected in tariff during most years. Most of the tax is collected in the port of New York. The tariff, which was at first levied simply to raise money, was later used to protect American industries. In some other countries where labor receives

*Acme Photo*

very low wages, goods were sent to the United States and sold for less than factories with better-paid workers could make them. Factories in the United States were slowly going out of business. Finally the Government decided to raise the tariff so that the selling price of goods imported into the United States would be equal to or greater than that of competing goods made by our higher-paid workmen.

In the last few years, especially during the depression, the expenses of the Government have increased tremendously. No longer is it possible to secure enough money from taxes on liquor, tobacco, income, and imports. New sources of revenue have had to be found. The United States now has a gasoline tax, an inheritance tax, and taxes on oil, tires, cosmetics, furs, jewelry, candy, electricity, and amusements.

The Federal Government is really a business which the citizens have initiated to perform specified services for them. The services include military protection, courts for the maintenance of justice, the improvement of highways, the supervision of forests and national parks, the administration of the Pure Food Laws, and the delivery of mail. Thousands of other services could be enumerated. To perform such services requires money, and it is paid either directly in taxes to the Government, or indirectly through the increase in the purchase price of articles. It is the Treasury Department which collects and spends the money in order that the Government may perform the duties assigned to it by the people through their representatives.

#### ACTIVITIES

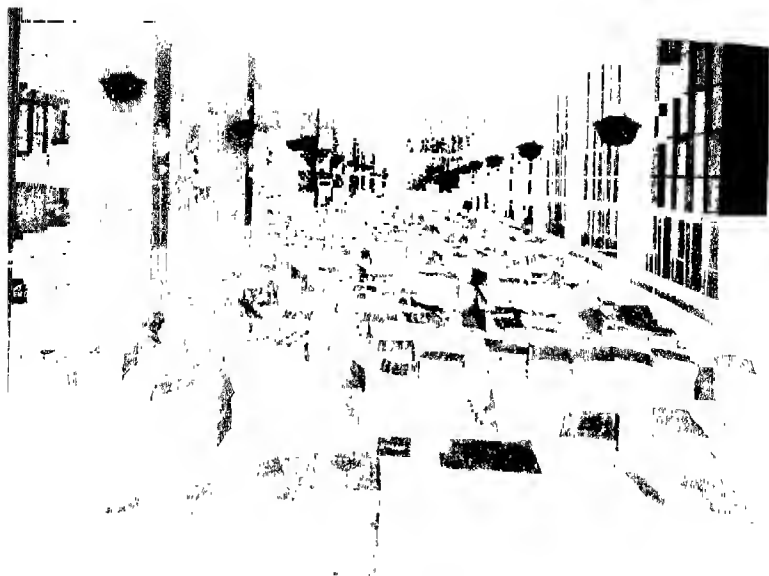
1. Look over your notes to see if they are complete enough to use for recalling information.
  2. Read over any parts of your notes which will help you in this matching exercise. Put on your paper the letter that indicates the beginning of each sentence. After each letter place the number of the part of the sentence that belongs with it.
    - a. Ever since the "Whiskey Rebellion," as it was called
    - b. The income tax today brings in a great deal of money,
1. more than either the liquor tax or the tobacco tax.
  2. because the man who makes a small salary pays only a little, while the man making a large salary can pay more.

- |   |  |
|---|--|
| <p>c. Congress thought the income tax was fair</p> <p>d. Every American citizen can be made to pay an income</p> <p>e. In addition to the liquor tax, the tobacco tax, and the income tax,</p> <p>f. From other countries, where labor receives very low wages,</p> <p>g. In the last few years, especially during the depression</p> | <p>3. people have agreed that the United States has the power to tax articles sold within the country.</p> <p>4. goods were sent to the United States and sold for less money than our factories could sell them for.</p> <p>5. whether he lives in the United States or in foreign countries.</p> <p>6. the expenses of government have increased tremendously.</p> <p>7. the United States helps to support itself by the collection of taxes on imported goods brought into this country.</p> |
|---|--|

3. Be prepared to explain the meanings of the following words and phrases:

tariff	sources	income tax
amended	rebellion	inheritance tax
imports	distribute	Internal Revenue
citizen	revenue	tobacco tax

*Check your answers to 2 with those on page 553*



## The Government "Money Factories"

After reading this article, organize the information given in relation to two topics: How the Government Makes Money; How the Government Prevents Counterfeiting. When you have finished reading, make an information outline under these two topics.

One of the most interesting phases of the Treasury Department's work is the making of paper money. It is done in the Bureau of Engraving and Printing, in Washington, D. C., where currency to the value of over \$15,000,000 is printed each day.

Very few persons know how the paper used in making money is manufactured. The company that makes the paper is prevented by law from selling it to any other person or firm. The blank paper is guarded carefully, so that counterfeiters may not secure it in order to make "fake" money. In each piece of money are linen threads which make the paper hard to tear and difficult to copy.



Each piece of money is stamped. The plates which stamp the money are made in the Government "money factory." Visitors are not permitted to see engravers making the plates, nor is any one engraver permitted to complete an entire plate. Each workman does only one part of it. Over a year is required to make one plate. When the plate is finished, a machine scratches lines upon it. The lines form a peculiar pattern that is hard for counterfeiters to copy. Twenty days are required to complete the process of getting a piece of paper money ready for circulation.

Before one package of money leaves, it is counted nineteen times. Only rarely is money lost in the Bureau of Engraving and Printing; the average loss is about one bill in four years. When money is lost, the workmen in the room from which the money disappears must make up the loss from their own salaries.

The cost of making Government notes is about one cent for each bill. When worn bills are returned, they are replaced with new ones. Every note that is not returned means a profit for the Government.

Sometimes a bill is torn. If more than three-fifths of it is returned, the Treasury Department will give the owner the entire value of the torn note. If more than two-fifths of the bill is presented, the owner will receive half of its value. Nothing is paid for less than two-fifths of a bill.

An average bill is worn out in less than two years. Banks send worn-out notes back to the Bureau. There they are put into a huge grinder called a "macerator." This machine can destroy more than "a million dollars in bills at one time."

Bills representing different amounts of money are made, the greatest value being \$100,000. The bills of large denominations are made especially for banks because with them a large amount of money may be stored in a small space. Twelve pounds of \$10,000 notes have the value of 76 tons of gold, or about 1,200 tons of silver.

On every piece of paper money is a seal on which appear the Latin words, "Thesauri Americae Septentrionalis Sigillum," which means "The Seal of the Treasury of North America." When the seal was made, in 1849, it was hoped that Canada would soon become a part of the United States and that the United States would include almost all of North America.

Coins are made in the United States Mint. All coins are made in the same way. During the last few years, Congress has stopped the making of gold coins, but silver money is still minted.

Anyone may have coins made at the U. S. Mint. If a lump of silver is taken to the mint, officials assay it; that is, they find out how much it is worth. Workers at the mint then purify the lump by removing from it anything that is not silver. Since pure silver is too soft for making coins, a harder metal is added. The mixture is then heated and softened. It is run through rollers until it becomes a thin strip of white metal. A heavy cutting machine then falls upon the strip and stamps out coins. Each coin is then pressed on each side with a seal representative of the United States.

The silver in a ten-cent piece is worth only a few cents, and the copper in a penny is worth only a few tenths of a cent. The seal on the money is what places a particular value on it. The difference between the real

value of the metal and face value of the coin is the Government's profit. Many coins are lost; this also is profit for Uncle Sam.

Coins are seldom counterfeited, not because they are more difficult to copy than paper money, but because the counterfeiters usually cannot make a profit on them. The price of metals has increased, and usually it costs more to make counterfeit coins than Government coins. Some counterfeiters who made a large number of silver dollars discovered later that each coin contained \$1.09 worth of silver, whereas the Government dollars contain not more than seventy cents worth.

Uncle Sam tries to discourage counterfeiters. Moving pictures are not permitted to show the work of counterfeiters or to describe how they make false coins because Government officials think others might be encouraged to try to make counterfeit money. Whenever a counterfeit bill or coin is found, the Secret Service Department traces it immediately. Long jail terms in Federal prisons are the usual punishment for counterfeiters.

A skillful counterfeiter must be a master engraver, and a man who is skillful enough to become a dangerous counterfeiter can make more money in an honest business. A counterfeiter knows he has but a small chance to remain at liberty, and not many men wish to take the chances involved in the work. Recently in a batch of \$3,000,000,000, less than \$12,000 of counterfeit money was found.

At the present time the United States operates coinage mints at Philadelphia, San Francisco, and Denver. There are two additional mints, one at New Orleans and

one at Carson City, Nevada, but they are conducted as assay offices where the precious metals used in the making of coins are purchased and where individual persons and companies may have ores and bullion assayed.

The Treasury Department of the United States Government has many duties other than the making of paper money and coins. To people generally, however, the "money factories" prove to be one of the most interesting sections of that vast Department.

#### ACTIVITIES

1. Make an information outline under the two general topics:
  - a. How the Government makes money
  - b. How the Government prevents counterfeiting
2. Find the part of a sentence on the right that matches one on the left. On your paper put the letter that indicates the beginning of each sentence. After each letter put the number of the part that belongs with it.

a. In the Bureau of Engraving and Printing, which is part of the Treasury Department,	1. so that counterfeiters may not secure it in order to make "fake" money.
b. The company that makes the paper (for money) is prevented by law	2. where they are put into a huge grinder called a macerator.
c. The blank paper is guarded carefully	3. currency to the value of over \$15,000,000 is printed every day.
d. When the plate is finished,	4. if you send at least three-fifths of the bill.

- |   |  |
|---|--|
| e. When money is lost,  | 5. from selling it to any other person or firm.  |
| f. Uncle Sam will give you the entire value of a torn note  | 6. a machine scratches lines upon it.  |
| g. Banks send worn-out notes back to the Bureau,  | 7. the workmen in the room from which the money has disappeared must make up the loss from their own salaries. |
| h. Twelve pounds of \$10,000 notes are as valuable as   | 8. so a harder metal is added to it.   |
| i. Pure silver is too soft for money,   | 9. that gives the coin its value.  |
| j. The difference between the value of the metal in a coin and its face value                     | 10. for only a master engraver could make counterfeit money.   |
| k. It is the seal on the money  | 11. less than \$12,000 of counterfeit money was found.   |
| l. Recently in a batch of \$3,000,-000,000  | 12. 76 tons of gold or about 1,200 tons of silver.   |
| m. A man who is skillful enough to become a dangerous counterfeiter can make more money honestly, | 13. is the Government's profit.  |

3. Be prepared to explain the meanings of the following words:

seal

plates

Uncle Sam

mint

vaults

face value

assay

macerator

counterfeiters

*Check your answers to 2 with those on page 553*

### SUMMARY ACTIVITIES

1. Explain the purpose of notetaking.
2. Mention the characteristics of good notes.
3. Tell in what reading situations in your school studies notetaking is helpful and profitable. Explain why.
4. Bring to class an outline you have made for use in your study of some subject other than reading. Discuss the outline with your classmates and get suggestions for improving it.
5. Bring to class some notes you have made on an out-of-class activity, such as a competitive game, a motion picture, a radio program, or some other event of interest. Discuss the notes with your classmates so that you may give and get suggestions on notetaking.

## SECTION VI

### The Sources and Use of Reference Materials

*In this section are reviewed the uses of some of the common sources of references to which you will need to refer from time to time.*





## Finding Materials for Reports

As you read this article try to remember the steps recommended in assembling material on a topic.

Before a report can be presented, material must be collected in preparation for presenting the topic. The student with a carefully prepared report is usually one who has succeeded in gathering accurate material and in organizing the information in a way that will make it interesting and easily understood.

On most topics assigned, the student has but little information. Since his task is to gather as much information as possible, he must become acquainted with various sources and know the best ways to locate those sources quickly. To find information students may use the following sources:

Reference books: Even though your history textbook may be a large one, it rarely will give a complete treatment of any given topic. Textbook writers realize that within the limits of one book a great many topics merely can be touched upon. A student can obtain a better understanding of a given subject by consulting the list of reference books usually found at the end of each chapter. In those reference books a fuller interpretation of a topic may be obtained. The pupil who is to make a report should examine some of the books suggested.

Encyclopedias: Sometimes an encyclopedia may seem heavy and clumsy to handle, but it is easy to locate

a subject in this type of reference book. Whether an encyclopedia consists of one volume or a collection of several books, it usually contains information on topics in many different branches of knowledge.

The material in an encyclopedia is located easily because it is arranged alphabetically by subjects. If the encyclopedia contains but one book, it is used like a dictionary. To find information about the pyramids, for example, one would look under the p's; lightning would be found in the l section. In a many-volumed encyclopedia it is necessary to examine the back binding of each book. On the binding are the letters that indicate what topics are contained in that volume. In Volume III, which may be labeled *Ed-Gor*, there will be found such topics as *electricity*, *funeral*, *fungus*, and *Germany*. An index, usually placed in the final volume, will often aid the searcher. The index is especially helpful in finding desired information about a topic when the searcher does not know what "clue" to use as an aid.

A student may wish to find information on a specific topic such as *airplane carriers*. Ordinarily a good plan is to look up the more important of the two words. In this case, because neither word will serve, the topic *airplane carriers* is looked for in the index. There the student will find: *airplane carriers—see aviation*.

Probably not all the information found in the encyclopedia will be needed. The student will make notes containing the information which has the greatest bearing on the topic in which he is interested. These notes will be added to the information secured from other reference books in the text. Then the student may continue to look for information from other sources.

Card catalogue: Timesavers in the search for information are the cards in the drawers of the card index, or catalogue, found in any good library. These cards are arranged in order and form a list of the books in the library. They are of three kinds—title, author, and subject.

Each nonfiction book has three cards. The first card is placed alphabetically by the name of the first important word in the title. *The Raven, a Biography of Sam Houston* by Marquis James would be found in the drawer that contained the *R* words. On the label of the drawer there probably would be these letters: *Pa-Run*.

The second card for this same book is placed alphabetically according to the author's last name, *James, Marquis*. In this case, the card probably would be found in the drawer labeled *Hit-Kol*.

The third card is placed alphabetically by subjects. The subject of this book is *Houston*, therefore, the drawer bearing the subject card for this book might be labeled *Fr-Int*.

To find material on *Houston*, it may be that the student would look only for subject cards, which would all be found in the drawer containing the *H* cards. Names of books that seem to deal with the particular parts of *Houston's* life on which a report is to be made should be noted. The numbers of the books should be given to the librarian who will then secure the material for the student. From these books more information should be gathered and added to that already compiled from other sources. In making selections from a list of cards it is important to watch closely the copyright dates. The

most recently published books on topics such as transportation, communication, or in the field of science should be consulted in order to get the most recent information on the subject.

Below are reproduced an author card and a title card for Thames Ross Williamson's *Opening Davy Jones's Locker*. The author card contains some information in addition to the name of the author, the book, and the publisher. The careful reader may learn that the book was copyrighted in 1930, that it is illustrated by Hubert Rogers, and that it describes a boy's explorations at the bottom of the sea. This information is useful for determining at a glance whether the book is likely to be one you may wish to read.

yW676o

Williamson, Thames Ross, 1894—

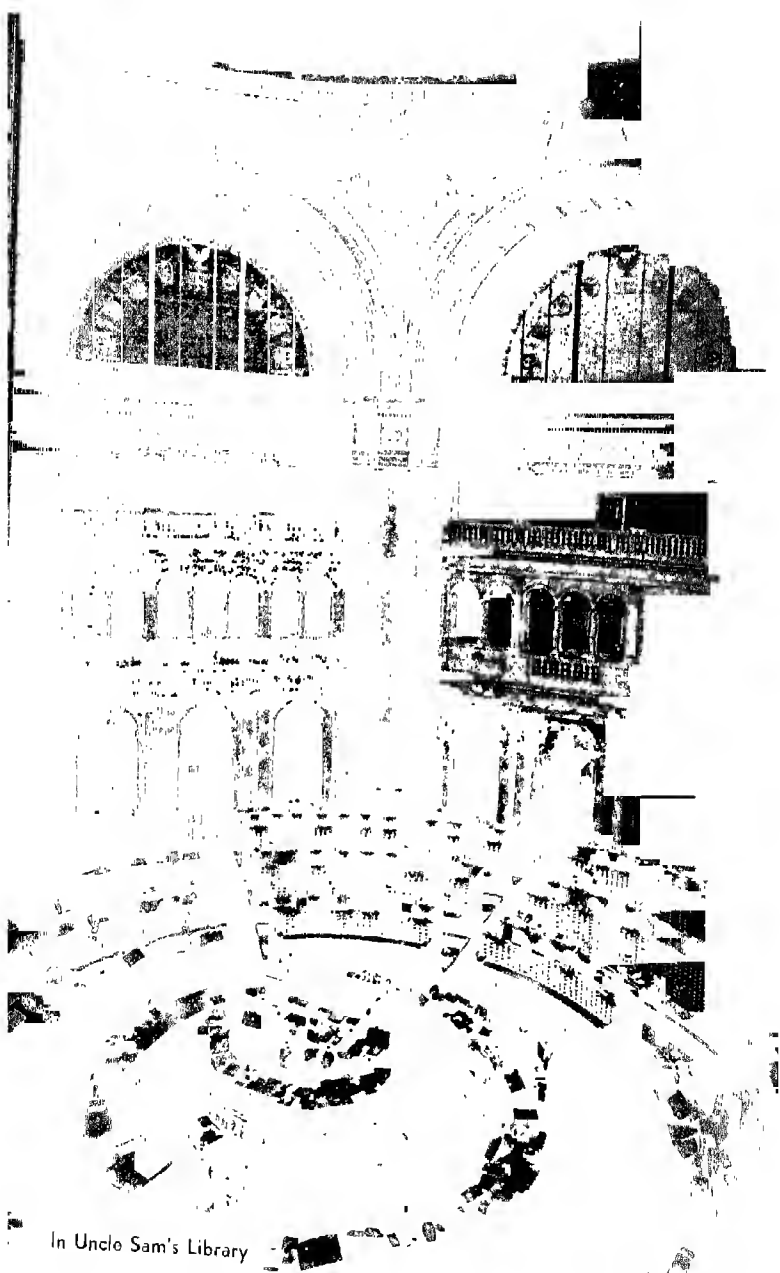
Opening Davy Jones's Locker; a boy explores the bottom of the sea, by Thames Williamson; with illustrations by Hubert Rogers. Boston and New York, Houghton Mifflin Company, 1930

yW676o Opening Davy Jones's Locker

Williamson, Thames Ross



Library of Congress



In Uncle Sam's Library

Galloway

The Readers' Guide to Periodical Literature. A fourth source of material that should not be neglected is *The Readers' Guide to Periodical Literature*. This Guide contains the names of articles published in over a hundred magazines and lists them according to author and subject. The volumes are kept up to date by frequent supplements.

Since magazines are published at regular intervals or periods, they are referred to as periodicals. They are likely to contain the latest information available on many topics. Rather than look through all the published magazines on the chance of finding an article regarding a topic, it is much quicker to refer to the *Readers' Guide*. There, under the topic, the various articles pertaining to it are listed. After the title of each article the name of the magazine in which it appears is given, the date of issue, and the pages on which the article is found or at least begins. It is an easy matter to get the magazine from the librarian and to make notes on the important information desired.

The following magazine references to the life of Samuel Houston were found in the *Readers' Guide*:

Houston, Samuel

Portrait—Time 34:87 D 4 '39

Boy who twice became an Indian, E. C. Boykin—  
St. N. 63: 15-17 Ap. '36

Remember the Alamo: one-act play. G. Schmett,  
Scholastic 28: 6-7 May 16 '36

Sam Houston's Slave, B. M. Moore — C. S. Mon.  
m., p. 14, Jl. 24 '35

All the abbreviations used are explained in the *Readers' Guide*. The first reference, for example, indicates

that there is a portrait of Samuel Houston in *Time*, 34th Volume, page 87, December 4th issue, 1939. The last reference calls attention to an article by B. M. Moore, entitled "Sam Houston's Slave," which appears in the *Christian Science Monitor Magazine*, page 14, July 24, 1935 issue.

Other reference books. For some topics other reference books need to be used. To find material on the life of an important person living in the United States, the volume, *Who's Who in America*, revised every two years, is valuable. *The Statesman's Yearbook*, issued each year, covers the entire world, one section being devoted to the British Empire, another to the United States, and a third to other countries. *The Statistical Abstract of the United States* is filled with data, in table form, that summarizes many aspects of American life. Almanacs, usually published by newspapers, contain information of value to pupils who must write reports.

After notes on a topic have been gathered, the student must determine which ones are to be used and which discarded. Perhaps the best procedure is to read all the notes, think about them, select the best ones for the purpose to be carried out, assort them, and then write a short outline containing the main subdivisions of the topic. If, for example, the topic is the Civilian Conservation Corps, usually known as the CCC, the report may be organized under these headings:

#### The Civilian Conservation Corps

- I. Its beginning
- II. Its purpose
- III. Its accomplishments
- IV. Its cost



After a topic outline has been made, the information that properly belongs under each major heading should be selected and rearranged to secure the best development. The rest of the notes may be discarded. Their chief purpose is to give a background that will aid in the choice of the most important items and in the general discussion of the topic.

### ACTIVITIES

1. Prepare a bibliography (a list of books and magazine articles) that may contain valuable information on such topics as:

The Olympic Games  
Dust Storms in the  
Midwest

The History of the Sub-  
marine  
Television

2. On your paper write the letters from *a* to *j*. Beside each letter write the word or words necessary to complete the statement indicated.
  - a.* At the end of each chapter in your ..... a list of suggested books is usually given, in which will be found a more complete treatment of the topics discussed.
  - b.* The material in an encyclopedia is arranged ..... by .....
  - c.* The index in a set of encyclopedias is usually found in the .....
  - d.* All nonfiction books are given ..... cards in a library card catalogue.
  - e.* Cards for nonfiction books are arranged in a card catalogue alphabetically by ....., ....., and .....

- f. In finding references in a card catalogue, one will probably be most successful if he consults the ..... cards.
  - g. The *Readers' Guide to Periodical Literature* lists references from over ..... magazines.
  - h. The references in the *Readers' Guide* are listed alphabetically by ..... and .....
  - i. The best book to consult regarding the life of an important living American is .....
  - j. The material to be used in a report should be made to fit a well-organized .....
3. Find out whether your school library contains in its card catalogue three cards for each nonfiction book—a title card, an author card, and a subject card. If your library does contain three cards for each nonfiction book, select any volume in your library and make a sample of each type of card for it.
- Check your answers to 2 with those on page 553*

## Using Other Reference Materials

In the following section the use of still other sources of references such as the railroad timetable, telephone directory, and city directory will be discussed. Read carefully and review mentally.

### READING A RAILROAD TIMETABLE

Trains run by schedule, and the times at which they start and at which they reach their destinations are printed in a little booklet called a "timetable." Reading a timetable is difficult unless one has had training in doing it.

Each of the different railroad systems in the United States issues its own timetables. The larger companies, of course, have many branches, and each one has timetables of its own. When securing a timetable, the traveler must know which railroad system will take him near his destination, and he must know which branch line of that particular system serves the place he wishes to visit.

A traveler may wish to visit a city called Birdseye, Montana. First he must find out on what railroad line Birdseye, Montana is located. The ticket agent at the starting point can give this information. A book in his office has every city in the United States listed alphabetically and besides each city, the railroad that serves it is given.

The ticket agent will find that Birdseye is located on the Northern Pacific Railroad. Northern Pacific timetables can be secured at the railroad station. They will

## INDEX TO STATIONS

Table No.	Altitude	Table No.	Altitude	Table No.	Altitude
Aberdeen, Wash. 60, 60	141	Beroun, Minn. .... 10	1000	Cato, Mont. .... 13	3200
Aberdeen Jct. Wash. 50	10	Berrian, Wash. .... 7	301	Cedar Creek, Wash. 41	3300
Abbotsford, B. C. .... 157	311	Beulah, N. D. .... 20	1707	Cedar Lake, Minn. .... 18	1346
Aarno, Wash. .... 157	311	Big Falls, Minn. .... 10	1240	Centerville, Wash. .... 7	1560
Adco, Wash. .... 58	1017	Big Horn, Mont. .... 3	2712	Centralia, Wash. ....	
Adkias, Wash. .... 61	106	Big Lake, Minn. .... 1	900	Central Ave., Wa. .... 60, 60, 61	188
Adna, Wash. .... 26	1270	Big Lake, Wash. .... 57	182	Central Park, Mont. .... 10, 13, 16	801
Adrian, N. D. .... 20	1237	Big Timber, Mont. .... 3	4094	Centor City, Minn. .... 12	4324
Adrian, Wash. .... 3	910	Billaga, Mont. .... 3, 8, 0, 13, 33, 35	3130	Ceres, Wash. .... 61	322
Agassiz, Idaho. .... 7	326	Blair, N. D. .... 23	1653	Chamber, Wash. .... 61	2578
Agate Bay, Wash. .... 45	2650	Birchfield, Wash. .... 54	1011	Chama, N. D. .... 12	2830
Agassiz, Idaho. .... 7	326	Birdseye, Mont. .... 4	4231	Chandler, Mont. .... 30	4943
Albany, Mont. .... 13	1230	Bishop, Wash. .... 152	882	Charles, Mont. .... 5	544
Albion, Minn. .... 13	1230	Bismorek, N. D. .... 2, 13	1062	Chaselay, N. D. .... 35	2047
Albany, Ore. .... 64	208	Blackduck, Minn. .... 10	1404	Chenhais, Wash. .... 60, 60, 61	188
Alder, Mont. .... 41	6123	Black River, Wash. .... 39		Cheney, Wash. .... 5, 60	2348
Alderton, Wash. .... 7	242	Blackwell, Idaho. .... 48A		Chestnut, Mont. .... 3	5270
Aldrich, Minn. .... 20	1361	Blotchford, Mont. .... 3	2260	Cheyenne, Wyo. .... 1, 8, 19	
Alfalo, Wash. .... 0	723	Bloom, N. D. .... 2	1521	Chicago, Ill. .... 1, 8, 19	
Alfred, N. D. .... 22	1013	Bloomburg, Mont. .... 4	5573	Chicago Hot Springs	
Algomo, Idaho. .... 24	2189	Blueberry, Wn. .... 15	1254	(Emigrant), Mont. 38	4987
Alie, N. D. .... 21	1140	Blue Canyon, Wash. .... 37	326	Chino, Mont. .... 38	4372
Alhona, Neb. .... 1, 8	2200	Blue Grass, N. D. .... 12	2000	Chisago City, Minn. .... 12	846
Allard, Mont. .... 22	1031	Rhinton, Minn. .... 1	1344	Christopher, Wash. 7, 60	64
Alhous, Wis. .... 50	1031	Bolck, N. D. .... 18	800	Circ, Mont. .... 32	2450
Almira, Wash. .... 50	1031	Bolta, Mont. .... 4	5504	Cleora, Wash. .... 57	143
Almont, N. D. .... 2	1035	Bonlow, Wash. .... 54	1430		
Almota, Wash. .... 62	645	Bowser, Mont. .... 3	3321		
		Bordeaux Jct., Wash. 50	146		
		Bothell, Wash. .... 57	64		

contain an alphabetical index of the cities served by the Northern Pacific system. The traveler may then look for Birdseye.

One or more numbers appear after the name of each city. The numbers tell in which table to look for trains going to that particular city. Since Birdseye has the number 4 after it, one must turn to table No. 4 in the folder if he wishes to find out about trains to and from that town.

In the second column of the Northern Pacific index the altitude, or height above sea level, is mentioned. The Northern Pacific Railroad goes through mountainous territory, and travelers are usually interested in knowing the altitudes of areas through which the train passes. The altitude is not mentioned in tables of all railroads, for it is not very important.

The traveler will look at Timetable No. 4, which contains information about train schedules for Birdseye.

# Transcontinental Train Schedule

READ DOWN		Miles from St. Paul	MAIN LINE TABLE 4		READ UP		
3 Daily	1 Daily				2 Daily	4 Daily	Mot. Bus Daily
AM	AM		Mountain Time		PM	PM	PM
3 48	9 20	1033	Lv Roseman .....	Ar	9 30	1 03	5 40
f 3 54	—	1037	" Story .....	"	—	1 48	—
4 02	—	1042	" Belgrade .....	"	—	1 40	5 25
—	—	1047	" Central Park .....	"	—	—	—
4 18	—	1052	" Manhattan .....	"	—	1 24	5 10
4 30	9 50	1057	Ar Logan 41 .....	Lv	8 45	1 15	5 00
—	221 Daily	—	—	—	222 Daily	—	—
4 40	9 55	1057	Lv Logan 41 .....	Ar	8 35	1 05	—
f 4 49	10 04	1063	" Tridont .....	"	f 8 25	12 55	—
—	—	1067	" Rekap .....	"	—	—	—
f 5 02	f 10 17	1071	" Clarkston .....	"	f 8 12	12 38	—
5 12	10 26	1077	" Lombard .....	"	8 02	12 28	—
—	—	1083	" Brewer .....	"	f 7 54	—	—
f 5 27	10 40	1086	" Toston .....	"	7 47	12 10	—
—	—	1092	" Holker .....	"	—	—	—
5 46	10 59	1098	" Townsend .....	"	7 28	11 49	—
—	f 11 04	1100	" Newark .....	"	f 7 21	—	—
—	f 11 11	1106	" Clow .....	"	—	—	—
—	11 22	1111	" Winston .....	"	7 06	f 11 23	—
—	f 11 29	1115	" Placer .....	"	—	—	—
—	f 11 37	1120	" Louisville .....	"	—	—	—
—	11 46	1126	" East Helena .....	"	6 39	10 55	—
6 45	11 55	1131	Ar Helena 13, 46, 47 .....	Lv	8 30	10 45	—
—	Mot. Bus Daily	—	—	—	Mot. Bus Daily	—	—
6 55	12 01	1131	Lv Helena 13, 46, 47 .....	Ar	8 20	10 35	—
f 7 10	—	1139	" Birdseye .....	"	—	10 16	—
f 7 24	—	1144	" Austin .....	"	—	10 07	—
f 7 35	—	1148	" Weed .....	"	—	9 58	—
f 7 45	—	1149	" Skyline .....	"	—	9 52	—
f 7 55	—	1151	" Blossburg .....	"	—	9 46	—
—	—	—	Mullen Tunnel and Continental Divide, Elevation 6,500 feet	—	—	—	—
f 8 10	12 50	1160	" Elliston .....	"	5 25	9 37	Motor Bus
f 8 16	—	1166	" Gilbert .....	"	—	9 17	Ex. Run.
f 8 22	1 00	1169	" Avon .....	"	5 15	9 08	PM
f 8 32	—	1175	" Brailley .....	"	—	8 58	See Table No. 40
8 45	1 30	1182	Ar Garrison .....	Lv	5 00	8 45	—
—	235 Daily	—	—	—	2	236 Daily	—
4 40	9 50	1057	Lv Logan 41 .....	Ar	8 45	1 05	5 00
4 50	—	1063	" Three Forks .....	"	—	12 54	4 50
f 4 59	—	1070	" Willow Creek .....	"	—	12 46	—
f 5 09	—	1076	" Sappington 41 .....	"	—	12 35	1 00
—	—	1084	" Lamo Spur .....	"	—	12 25	—
f 5 27	—	1088	" Cardwell .....	"	—	12 17	—
5 38	f 10 50	1095	" Whitehall 41 .....	"	7 51	12 06	4 05
—	—	1102	" Pipestone .....	"	—	11 53	From
—	—	1107	" Spire Rock .....	"	—	11 43	Alder
—	—	1112	" Welch .....	"	—	11 33	and
f 6 33	—	1118	" Homestead .....	"	—	11 15	Norris
—	—	—	Continental Divide, Elevation 6,550 feet	—	—	—	See Table No. 41
7 00	12 20	1128	Ar Butte 13, 41, 42, 43 .....	Lv	6 30	10 40	—

## Reference Notes

f—Stops on flag.  
s—Train No. 3 continued from  
Garrison west.  
g—Helena-Garrison Bus connects at  
Garrison with North Coast Limited.  
This bus leaves from N. P. Depot at  
time shown and stops at Placer Hotel.  
(for passengers only) at 12:00 P. M.

Bus from Garrison arrives at Placer  
Hotel at 0:15 P. M.  
t—Except Sundays.  
j—Meals.  
P. M. time shown in bold face type.  
A. M. time shown in light face type.  
Train-Auto available at this  
point.

# Pennsylvania Railroad Timetable (New York-Washington)

For Additional Trains between New York and Philadelphia and Washington, see local time table.		101	103	401	121
Daily		Daily	Daily	Week days	Daily
AM		AM	AM	AM	AM
0	ly New York, N. Y., Penna. Station..	12.30	12.50	.....	10.30
.....	ly New York, N. Y., (Hudson Term.)..	12.15	.....	.....	10.20
.....	ly Jersey City, N. J. (Exchange Place)..	12.18	.....	.....	10.23
.....	ly Newark, N. J. ....	12.34	.....	.....	10.39
10.0	ly Newark, N. J. ....	12.47	.....	.....	10.45
10.5	ly Elizabeth, N. J. ....	12.55	.....	.....	10.50
11.0	ly New Brunswick, N. J. ....	1.04	.....	.....	11.00
11.1	ly Trenton, N. J. ....	1.13	.....	.....	11.13
11.2	ly North Philadelphia, Pa. ....	1.25	.....	.....	11.25
11.3	ly Phila., Pa., Penna. Sta. (30th St.)..	1.34	.....	.....	11.34
11.4	ly Philadelphia, Pa. Broad Street Station .....	2.00	.....	7.20	.....
104.8	ly Phila., Pa., Penna. Sta. (30th St.)..	2.40	.....	7.24	12.13
118.1	ly Chester, Pa. ....	3.09	.....	7.40	12.40
118.1	ly Wilmington, Del. ....	3.13	.....	7.56	12.46
118.5	ly Baltimore, Md. (Penna. Station)...	4.20	5.45	9.25	1.46
220.6	ly Baltimore, Md. (Penna. Station)...	4.32	5.55	9.25	1.46
220.6	ly Washington, D. C. ....	5.20	7.15	10.10	2.30

For Additional Trains between Washington and Baltimore, Baltimore and Philadelphia, and Philadelphia and New York, see local time table.		102	108	112	132
Daily		Daily	Daily	Daily	Daily
AM		AM	AM	AM	Noon
0	ly Washington, D. C. ....	12.30	2.00	4.25	12.00
40.1	ly Baltimore, Md. (Penna. Station)...	1.20	2.51	5.10	12.46
40.1	ly Baltimore, Md. (Penna. Station)...	1.37	3.02	5.23	12.46
108.6	ly Wilmington, Del. ....	2.55	4.21	6.37	1.49
108.6	ly Wilmington, Del. ....	3.00	4.30	6.40	1.50
111.1	ly Chester, Pa. ....	3.17	.....	.....	2.18
111.1	ly Phila., Pa., Penna. Sta. (30th St.)..	3.37	5.02	7.17	.....
115.8	ly Philadelphia, Pa. Broad Street Station .....	.....	.....	.....	.....
140.7	ly Phila., Pa., Penna. Sta. (30th St.)..	3.40	5.04	7.17	2.18
168.6	ly North Philadelphia, Pa. ....	3.51	5.14	7.26	2.29
168.6	ly Trenton, N. J. ....	4.23	5.44	7.54	2.50
183.0	ly New Brunswick, N. J. ....	5.11	.....	.....	3.35
211.1	ly Elizabeth, N. J. ....	5.25	6.37	8.43	3.44
216.8	ly Newark, N. J. ....	5.31	6.38	8.44	3.50
225.4	ly Jersey City, N. J. (Exchange Place)..	5.47	6.54	9.01	4.06
225.4	ly New York, N. Y. (Hudson Term.)...	5.50	6.57	9.04	4.08
226.8	ly New York, N. Y., Penna. Station..	5.50	6.54	9.05	4.00

a On Sundays arrives Jersey City 9:15 A.M., Hudson Terminal 9:18 A.M.

b On Sundays arrives Jersey City 5:33 P.M., Hudson Terminal 5:41 P.M.

c On Sundays leaves Hudson Terminal 5:20 P.M., Jersey City 5:23 P.M.

d On Sundays leaves Hudson Terminal 7:00 A.M., Jersey City 7:03 A.M.

e On Sundays arrives Jersey City 7:01 A.M., Hudson Terminal 7:04 A.M.

f Stops only to receive passengers.

g Stops only to discharge passengers.

h Section carrying Baltimore and Southern Railway sleeping cars only stops at Baltimore.

i Leaving time of Philadelphia-Washington sleeping car.

j Stops only to receive or discharge passengers to or from points south of Philadelphia.

k Hudson & Manhattan R. R. Station.

That table will tell not only when each train reaches or leaves Birdseye, but it will also indicate the towns through which the train passes. It may tell also whether the train carries a dining car or a sleeping car (usually called a Pullman). Much of the information needed when one is planning a trip may be obtained from the timetable.

#### A PENNSYLVANIA RAILROAD TIMETABLE

The Pennsylvania Railroad is one of the largest railways in the world, and one of its busiest lines is that which connects New York City with Washington, D. C. A timetable showing its many trains is too large to reproduce in this book; therefore, only a part of one table is shown. This timetable is divided into two sections. The upper half shows information about trains from New York to Washington; the lower half shows information about trains from Washington to New York.

Four trains are listed as going from New York to Washington. Their numbers are 101, 103, 401, and 121. These numbers are shown in the right-hand columns.

In the first column at the left is the word *Dist.* This means distance. The figures below it show that the distance between New York and Washington is 226.6 miles.

In the next column appear the names of the cities at which express trains stop. These express trains stop only at the most important cities. If one wished to stop at Bristol, Pennsylvania, he would have to take a local train, which makes stops at the smaller cities along the line. To the left of each city are the abbreviations *Lv* or *Ar*. *Ar* means "arrives"; *Lv* means "leaves."

In the first column to the right of the names of the

cities it will be seen that train No. 101 leaves New York, Pennsylvania Station, at 12:30 A. M., each day. It carries sleeping cars. It arrives in Washington at 5:20 A. M.

In the bottom half of the timetable it will be noted that train No. 102 leaves Washington at the same time, 12:30 A. M. It arrives in New York at 5:50 A. M.

In the next column the table shows that train No. 103 leaves New York at 12:50, but stops only at Baltimore and Washington. Train No. 112 does not stop at Chester, Pa., or at New Brunswick or Elizabeth. A traveler who wished to reach Chester would take train No. 101.

Only Nos. 401, 121, 112, and 132, carry dining cars. All the others, however, have sleeping cars, for they run during the night hours.

Train No. 401 runs only on week days, as is shown at the top of the table. One has to be careful about this point in reading tables, for some trains run only on certain days. Often extra trains are scheduled for Sunday only.

Figures in light type refer to the hours before noon (A. M.); figures in dark type refer to the time between noon and midnight (P. M.). This distinction can be seen by studying the schedules of train No. 121 and No. 132.

Often at the side of the time figures, small letters or symbols, such as *u*, *g*, or *t*, will be seen. To find the meaning of these the footnotes that appear at the bottom of the timetable must be examined.

#### ACTIVITIES

1. Write the answers to these questions. Refer to the Pennsylvania Railroad timetable on page 356.
  - a. From what station does train No. 401 start?



- b. What train would you take to arrive in Wilmington from New York at about 12:45 P. M.?
  - c. Why would you not take train No. 103 from New York to get to Trenton?
  - d. When does train No. 132 leave Washington?
  - e. Can you buy dinner on train No. 132, from Washington to New York?
  - f. Does train No. 132 arrive in Baltimore in the morning or afternoon?
  - g. Would you take train No. 102, running from Washington, if you wished to get on at Trenton and get off at Elizabeth? Why?
  - h. At what time does train No. 112 arrive at Newark, New Jersey? When does it leave?
  - i. How many miles would you travel if you took a train trip from Newark to Wilmington?
  - j. Could you get sleeping accommodations on train No. 103?
  - k. If you took train No. 102 from Washington to New York, would you arrive in New York before breakfast?
  - l. Which of the trains shown running from New York to Washington makes the fastest trip?
  - m. Which train running from New York to Washington would give you the best chance to see the scenery along the way?
2. List five or more words that are particularly needed in discussing timetables, as *leaves*.
  3. Secure a timetable from a near-by railroad station and explain what trains you may take to reach a distant city served by the railroad.

**Check your answers to 1 with those on page 553**

## The Telephone Directory

You may have used a telephone directory and the telephone many times but perhaps there are a number of things you do not know about telephone services and about the efficient use of the telephone directory. Read this article and carefully note those points which you do not already know.

Decide in what way or ways you will read this article:

Fast	Fast, and reread parts
Normal rate	Fast, and slow up on parts
Slow	Mental summary

Since 1876, when Alexander Graham Bell first demonstrated what people then called the "toy talking box," the telephone has grown in use by leaps and bounds. Today there are over 20,000,000 telephones in the United States alone. Millions of miles of telephone wires enable one to converse in an ordinary voice with a person in China, Spain, England, Russia, Italy, or other foreign countries.

The telephone saves many valuable minutes each day. Merchants are able to learn quickly of customers' needs and to supply them promptly. Other business dealings may be carried on by means of the telephone. In social life the telephone is used in place of written invitations and even brief friendly visits.

The telephone book, usually called the telephone directory, is one of the most important books in a home. It contains information that will help one to use a telephone to the best advantage.

Of course, telephone directories published by different companies and serving cities of various sizes differ among themselves. On the whole, however, they are quite uniform in the information they carry.

### THE INDEX

Usually on the first page of the telephone directory there is an index which lists the pages on which certain types of information are found. A sample index is given below:

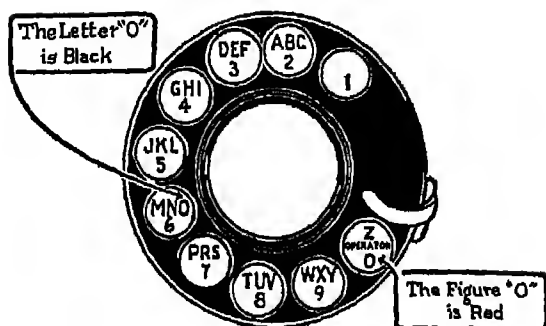
How to make calls.....	This page
Police and fire emergency calls.....	This page
Business dealings with the company.....	Pages 2-3
Toll calls.....	Pages 4-5
Rates for toll calls.....	Page 6
How to use the dial telephone.....	Page 7
Miscellaneous information.....	Page 8
Alphabetical telephone directory.....	Page 9
Classified telephone directory.....	Yellow pages
Post Office information.....	Page 2 of Yellow pages

### HOW TO MAKE A CALL

In most of the large cities dial telephones, which permit one to call the local numbers by moving a dial with the finger, are now in use. In many smaller cities the manual telephones, over which the caller must give the number to the operator who makes the connection, are still used.

The telephone directory explains how to use a dial telephone. These are the directions it gives:

1. Refer to the directory for the correct number.
2. Remove the receiver from the holder.
3. Listen for the dial tone—a steady humming noise.



4. Dial the number you wish. Let us suppose you wish to dial the number 2-5267. Place your index finger in the opening over the figure 2 and pull the dial around to the right until your finger strikes the finger stop. Remove your finger and let the dial return to its normal position. Dial the remaining numbers in the same way. In large cities telephone numbers contain the names of exchanges, such as Calumet 4946, or Bolton 2184. In such cases the first or first two or three letters in the exchange name are dialed first, and then the desired numbers. In Chicago one would dial C-A-L 4946. To secure the same number in Minneapolis, one would dial C-A 4946. In a smaller city often but one letter is used, as C-4946. Telephone users should become familiar with the practice used in their home localities.

5. When the dialing is completed, you should hear a brr-rr-ing sound repeated at regular intervals, indicating the called telephone is being rung. If the line is busy, a busy signal will be given. This signal is a repeated buzz-buzz-buzz, quicker and louder than the ringing signal.

6. The voice of the person called indicates that the connection has been made.

If a manual telephone is used, the caller must give the number to the operator instead of dialing. Clear pronunciation is necessary. The telephone company recommends that numbers be spoken in this way:

To call 0027, say "Oh-oh—two-seven"

To call 1253, say "One-two—five-three"

To call 2125J, say "Two-one—two-five-J"

To call 1500, say "One-five hundred"

To call 5000, say "Five—thousand"

To call 4-3527, say "Four—three-five—two-seven"

In answering the telephone many people simply say "Hello." This gives the caller no information. Unless he recognizes the voice, he must ask, "Is this Roland Brown speaking?" or "Is this 4-3527?"

In its directory the telephone company suggests the following methods of answering the telephone:

"Smith and Company, Mr. Jones speaking."

"The Jones residence, John Jones speaking."

"John Jones speaking."

"This is 4-3527."

Over the telephone the voice is the only impression the listener receives of the person calling him. He cannot see that the caller has a nice smile, that he is dressed neatly, or that his shoes are well polished. For this reason one must try to make his voice carry a good impression. When using the telephone, one should tell his name immediately, speak distinctly and evenly, and be brief but courteous. Notice the brevity and completeness of this telephone conversation:

Caller (using manual telephone)—"Two-one — oh — three-one."

Answer—"Isabel Mills speaking."

Caller—"This is Mary Dullman. May I come for my music lesson at eleven o'clock Saturday instead of at ten?"

Answer—"I am sorry that is not convenient. Can you come earlier?"

Caller—"Yes, I can come at nine o'clock. Is that convenient for you?"

Answer—"Yes, I'll expect you at nine o'clock."

Caller—"Thank you, Miss Mills. Good-by."

Answer—"Good-by, Mary."

In the directory under the title, "How to make calls," the explanation is given that for all out-of-town calls a certain number on a dial telephone must be dialed, and that "Toll Operator" should be requested if a manual telephone is used. When information is desired, one must dial a given number or ask the operator for "information" or dial a number indicated for that purpose. This procedure depends upon the type of telephone which is used. To report on a dial phone a line out of order, a special number is listed to use; on an ordinary telephone a call may be made to the department of "Repair Service." To get the correct time, one may call a certain number or dial "Operator" and then ask for the "Time Bureau." A charge of five cents usually is made for each call regarding the time. In some large cities a special number is listed which may be called in order to obtain a weather report.

In making police and fire emergency calls, the directory says to call or dial the "Operator" and say in a clear voice, "I want to report a fire," or "I want a policeman,"

or "I want an ambulance." In such cases, the person making the call is connected immediately with the fire or police departments and may make his desires known.

It is possible to send telegrams by means of either a home telephone or a public coin-box station. As explained in the directory, when using the home dial telephone, the number of the Western Union Telegraph Company, or of the Postal Telegraph Cable Company should be dialed. When using manual or public coin-box telephones, one should call or dial the operator and ask for Western Union or Postal Telegraph. The message should be dictated carefully. The charge for telegrams sent over home telephones is placed on the monthly telephone bill. For telegrams dictated over public telephones, the charge must be paid into the coin slots when the operator requests the sender to do so.

In the section of the directory entitled, "Business dealings with the company," an explanation is made of how the Business Office helps with many problems. The Business Office is informed if the subscriber wishes his telephone disconnected while he is away on a vacation. If a new home is to be built, the Business Office will send, free of charge, a telephone engineer to help plan the location of telephone wiring. If unsatisfactory service of any telephone continues even after the Repair Department has been asked for help, a call to the manager in the Business Office may be made. It is at the Business Office, too, that monthly telephone bills may be paid. It is this same department that collects the old directories when new ones are issued.

Each telephone company has one department called "Information," to which frequent calls are made for

assistance in securing telephone numbers. The directory explains that "Information" will give the telephone number of a person whose name is not in the directory if a telephone has been installed since the last directory was issued.

Telephone service is available from any telephone to practically all of Europe, and to many important points in Central and South America, Africa, Asia, Australia, the Bahamas, Bermuda, Hawaii, and the Philippines. It is available also to many of the large ships at sea. To obtain information regarding Overseas and Ship-to-Shore Telephone Service, the directory shows that one must call or dial the Toll Operator.

Telephone booths often are installed in drug stores, railroad stations, and other public places. These are called pay stations. The directory says that if the pay stations have dial telephones, the one calling must deposit a nickel — or a telephone "slug" after removing the receiver; that he must listen for the smooth hum of the dial tone before he dials the number he wishes; that if there is no answer to his call, the money will be returned. The directory explains whether the coin drops back into the slot when the receiver is replaced on the hook, or if the person making the call must wait until the operator returns the coin through the coin box.

The procedure is almost the same in making toll calls from a coin-box telephone. When the smooth hum is heard, the caller must dial the toll operator, and ask for the number he wishes. The toll operator will find the cost and tell him the amount of money to deposit in the slots provided. When the money has been dropped, the connection is completed.



## LONG DISTANCE CALLS

In the section called "Toll calls" much information is given. The difference between a station-to-station toll call and a person-to-person call is described.

In a station-to-station call, the connection is made between two telephones, and the person calling agrees to pay for the call if anyone answers the telephone. These calls are handled more rapidly than person-to-person calls and are, therefore, less expensive.

In a person-to-person call, the person calling asks to talk to a particular person at a given telephone number. If the telephone operator cannot complete the call to that person, there is no charge for the call. If the one calling wishes to do so, he may leave a message with the operator so the call may be completed as soon as the desired person can be reached. If, later, the call is to be cancelled, the same operator should be notified.

Toll calls made at night are cheaper than those made during the day. Day rates are in effect from 4:30 A. M. to 7:00 P. M., on all days except Sunday. Night rates apply to calls made from 7:00 P. M. to 4:30 A. M. Savings of from 10 to 40 per cent are obtained by making calls during the night hours. No reductions in price, however, are made for short station-to-station calls, which cost less than 35 cents, or for person-to-person calls, which cost less than 50 cents. Sunday rates are the same as night rates.

It is possible to make a long-distance call and to have the person called pay the cost, if he is willing. This "reverse charges" service described in the directory, is of great help to anyone caught without money at a distance from home. He can call home, reverse the charges,

and ask for help. In such cases, it is possible to telegraph money from the home city to the place where the sender of the message is stranded.

A table from a telephone directory showing the cost of a station-to-station call from Trenton, New Jersey, or from one of the near-by communities, to many other cities in the United States and Canada is shown on pages 369-370 of this book. According to the table, a call from Trenton to Baltimore costs 60 cents, to Minneapolis \$2.90, and to New Orleans \$3.25. From Burlington a call to Pittsburgh costs \$1.05 and to Cleveland \$1.30. For all toll calls costing more than fifty cents a Government tax is added to the charges.

The main part of the Telephone Directory contains the names, addresses, and telephone numbers of all persons who possess telephones in that district. These names are listed alphabetically. When last names are the same, they are placed alphabetically by first names and middle initials. Thus, Anderson, Abel E. precedes Anderson, Alfred; and Anderson, Walter B. precedes Anderson, Walter S.

#### CLASSIFIED SECTION

In a separate book or near the end of the telephone directory is a section, usually of colored pages, called the Classified Telephone Directory. In it business telephones are listed under headings descriptive of their main line of business. In the telephone directory used in many states an index lists the pages upon which one can find the companies that deal in such things as antiques, automobiles, building materials, plumbing, refrigerators, paintings, and dairy supplies. Clubs,

churches, clergymen, druggists, funeral directors, lawyers, nurses, physicians, and schools are listed in separate sections to permit quick choice. Few persons use the classified section to the best advantage.

Because the telephone is so important, everyone should know how to use it properly. The key to its use is the directory, which is furnished free by the company. One who knows how to find what he needs in the directory possesses a useful instrument in the telephone.

### TOLL RATES TO KEY POINTS

Rates shown are station-to-station day rates and apply from both customers' stations and public telephones. Rates of 25 cents or less are for an initial period of 5 minutes; all others are for an initial period of 3 minutes.

For rates to nearby points not shown, call "Operator"; for rates to distant points not shown, call "Toll Operator."

TO	Trenton	Borden-town	Burlington	Hightstown	Lambertville	Mount Holly	New Egypt	Princeton	Riverside
Albany, N. Y.....	.75	.80	.80	.75	.75	.80	.80	.75	.80
Asbury Park, N. J.....	.40	.35	.40	.25	.45	.40	.25	.35	.45
Atlanta, Ga. ....	2.10	2.10	2.10	2.10	2.00	2.10	2.10	2.10	2.10
Atlantic City, N. J.....	.45	.45	.45	.50	.50	.45	.45	.50	.45
Baltimore, Md. ....	.60	.60	.55	.65	.60	.55	.60	.65	.55
Bay Shore, L. I.....	.50	.50	.55	.45	.50	.55	.50	.45	.55
Binghamton, N. Y.....	.65	.70	.70	.65	.60	.70	.70	.65	.70
Boston, Mass. ....	.95	.95	.95	.90	.95	.95	.95	.90	.95
Bridgeton, N. J.....	.45	.45	.40	.50	.45	.40	.45	.50	.40
Brooklyn, N. Y.....	.40	.40	.45	.35	.40	.45	.40	.35	.45
Buffalo, N. Y.....	1.00	1.05	1.05	1.05	1.00	1.05	1.05	1.05	1.00
Burlington, Vt. ....	1.10	1.10	1.15	1.10	1.10	1.15	1.10	1.10	1.15
Camden, N. J.....	.25	.25	.15	.35	.30	.20	.30	.35	.10
Cape May, N. J.....	.60	.55	.50	.60	.65	.50	.55	.60	.50
Chicago, Ill. ....	2.10	2.10	2.10	2.10	2.00	2.10	2.10	2.10	2.10
Cleveland, O. ....	1.30	1.30	1.30	1.30	1.20	1.30	1.30	1.30	1.30
Dallas, Tex. ....	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75
Denver, Colo. ....	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Dover, N. J.....	.45	.45	.45	.40	.40	.45	.45	.35	.45
Easton, Pa. ....	.35	.40	.40	.35	.25	.40	.40	.35	.35
Elizabeth, N. J.....	.35	.40	.45	.30	.40	.45	.40	.30	.45

Garden City, L. I.....	.45	.45	.50	.40	.45	.50	.45	.40	.50
Hackensack, N. J.....	.45	.50	.50	.45	.50	.50	.50	.45	.50
Harrisburg, Pa. ....	.60	.60	.60	.65	.65	.60	.60	.60	.55
Jamaica, L. I.....	.40	.40	.45	.35	.45	.45	.40	.40	.45
Jersey City, N. J.....	.45	.45	.45	.35	.45	.45	.45	.35	.50
Lake George, N. Y.....	.90	.90	.90	.85	.85	.90	.90	.85	.90
Lakewood, N. J.....	.30	.25	.30	.20	.40	.30	.15	.25	.35
Long Branch, N. J.....	.40	.35	.45	.25	.45	.45	.30	.35	.45
Miami, Fla. ....	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Minneapolis, Minn. ....	2.90	2.90	2.90	2.90	2.80	2.90	2.90	2.90	2.90
Montclair, N. J.....	.45	.45	.50	.40	.45	.50	.45	.40	.50
Montreal, Que. ....	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Morristown, N. J.....	.40	.45	.45	.35	.35	.45	.45	.30	.45
Newark, N. J.....	.40	.45	.45	.35	.45	.45	.45	.35	.45
New Brunswick, N. J.....	.25	.25	.35	.15	.25	.35	.25	.15	.35
New Haven, Conn.....	.60	.60	.65	.55	.65	.65	.60	.60	.65
New Orleans, La.....	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
New York, N. Y.									
(Zone 1)†.....	.40	.40	.45	.35	.40	.45	.40	.35	.45
Ocean City, N. J.....	.50	.45	.45	.50	.55	.45	.45	.50	.45
Omaha, Neb. ....	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25
Orange, N. J.....	.40	.45	.45	.35	.45	.45	.45	.35	.45
Passaic, N. J.....	.45	.45	.50	.40	.45	.50	.45	.40	.50
Paterson, N. J.....	.45	.50	.50	.45	.45	.50	.45	.45	.50
Perth Amboy, N. J.....	.30	.30	.40	.20	.35	.40	.30	.20	.45
Philadelphia, Pa.									
(Zone 1)†.....	.25	.25	.20	.35	.30	.20	.30	.35	.15
Pittsburgh, Pa. ....	1.05	1.05	1.05	1.05	1.00	1.05	1.05	1.05	1.00
Plainfield, N. J.....	.30	.35	.40	.25	.30	.40	.35	.20	.40
Port Jefferson, L. I.....	.55	.55	.60	.50	.55	.60	.55	.50	.60
Portland, Me. ....	1.15	1.15	1.20	1.10	1.15	1.20	1.15	1.15	1.20
Poughkeepsie, N. Y.....	.60	.60	.60	.55	.55	.60	.60	.55	.65
Providence, R. I.....	.85	.85	.85	.80	.85	.85	.85	.80	.90
Riverhead, L. I.....	.60	.60	.65	.55	.65	.65	.60	.60	.65
Rochester, N. Y.....	.95	1.00	1.00	.95	.90	1.00	1.00	.95	.95
St. Louis, Mo. ....	2.50	2.50	2.50	2.50	2.40	2.50	2.50	2.50	2.50
San Francisco, Cal.....	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Seattle, Wash. ....	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25
Springfield, Mass. ....	.75	.75	.80	.75	.75	.80	.75	.75	.80
Stamford, Conn. ....	.50	.50	.55	.45	.50	.55	.50	.45	.55
Syracuse, N. Y.....	.85	.85	.85	.85	.80	.85	.90	.85	.85
Trenton, N. J.....	*.05	.05	.10	.15	.15	.15	.15	.10	.15
Washington, D. C.....	.70	.70	.65	.75	.70	.65	.70	.70	.65
Wilmington, Del. ....	.45	.45	.40	.50	.40	.40	.45	.50	.35
Yonkers, N. Y.....	.45	.45	.45	.40	.45	.45	.45	.40	.50

\*No toll charge where local rate schedules so provide.

†Rates to other zones may vary from the rate quoted.

On each telephone conversation on which the charge is from \$.50 to \$.99, the federal tax is \$.10; where the charge is from \$1.00 to \$1.99, the tax is \$.15; where the charge is \$2.00 or more, the tax is \$.20.

## ACTIVITIES

1. On your paper write the letters from *a* to *i*. Place beside each letter the number that indicates the correct answer.
  - a.* To find the name of a doctor that lives near your home, you would look in the
    - (1) Index.
    - (2) Alphabetical Directory.
    - (3) Classified Telephone Directory.
  - b.* The cost of telegrams dictated from public coin-box stations is
    - (1) added to your telephone bill.
    - (2) paid by the deposit of coins in the slots.
    - (3) paid by the merchant in whose store the public telephone is located.
  - c.* A toll call from Trenton to New Haven, Conn., costs (See toll rates on pages 369-370.)
    - (1) 60 cents.
    - (2) 45 cents.
    - (3) 90 cents.
  - d.* Of the following names which one would appear first in a telephone directory?
    - (1) Russell, W. E.
    - (2) Russell, W. J.
    - (3) Russell, M.
  - e.* In answering a telephone call, the best answer is
    - (1) The Jones residence, Mary Jones speaking.
    - (2) Hello.
    - (3) Who is this speaking?
  - f.* The time to place a long distance telephone call for the cheapest call, is:
    - (1) on Mondays.

- (2) after 7 o'clock at night.
- (3) at noon.
- g. Usually the first thing to do when using a public coin-box telephone is to:
  - (1) deposit a nickel.
  - (2) lift the receiver from the hook.
  - (3) call the operator.
- h. In a person-to-person toll call, the caller agrees to talk with
  - (1) any person who answers.
  - (2) only one particular person.
  - (3) the person in whose name the telephone is listed.
- i. Usually for the correct time given over the telephone the charge is:
  - (1) five cents.
  - (2) nothing.
  - (3) five cents if more than one call is made per day.
- 2. Whom should you call to report:
  - a. a fire?
  - b. a telephone out of order?

*Check your answers with those on page 553*



## The City Directory

Jack Brown lives in a city of 300,000 people. He may know as many as five hundred persons in the city. The rest are strangers to him. He does not know their names, where they live, or what work they do. Occasionally he may face the task of finding one of those strangers. It would be almost impossible for him to visit every section of the city to inquire about a certain Robert White. If Mr. White has a telephone, Jack will be able to find the name in the telephone directory. If he has no telephone, Jack will be able to find Mr. White's name, address, and occupation in the city directory. Most large cities publish a directory of this kind which lists every adult living or working within the limits of the city and in near-by suburban areas.

The directory does not contain the names of children or housewives. If Jack is still in school, his name may not be listed, but his father's name will be. If he has older brothers or sisters who are working, their names will appear. Jack's mother's name will probably not

be listed, but it would be if her husband were dead and she were the head of the household.

The information in a directory is arranged and printed by an individual or group of individuals who expect to make a profit from their work. As the cost of gathering and arranging the material and printing the book is great, the price is rather high. The directories are sold to business houses and to individuals. In the city of Trenton, New Jersey, for example, directories are sold for fifteen dollars. Since the money secured from advertising is necessary to make the directory pay a profit, as much space as possible is devoted to advertising. The cover of the directory contains advertisements, as do the margins of each page.

A city directory contains many kinds of information. The first section usually contains advertisements of some of the more important industries, stores, and banks in the community. The advertisements are arranged alphabetically according to the type of business handled. An index, sometimes called a Buyers' Guide, helps the reader to find the pages on which certain products are advertised.

The classified advertising section contains advertisements only of those businesses which have paid for advertising space. The amusement section may contain advertisements of only ten theaters, although there may be twenty theaters in the city. The conclusion in that case would be that ten of the theaters did not buy space in the classified advertising section. However, in the back of the book, a complete listing of the businesses of the city is given, in a "Classified Business Directory." On page 375 is an index of classified advertisements.



## BUYERS' GUIDE

## CLASSIFIED ADVERTISEMENTS

Alphabetically Arranged According to Their Respective  
Lines of Business

	PAGE		PAGE
Amusements .....	10-11-12	Machinists .....	19-20
Automobile Accessories...	12	Marble and Granite.....	20
Automobile Tires.....	12	Meat Markets.....	20
Bakers .....	13	Mill Work.....	20
Brick Manufacturers.....	13	Miscellaneous ....	25-26-27-28
Chemicals .....	13	Music .....	20
Coal and Wood.....	14	Newspapers .....	21
Dairy Products.....	15	Painters .....	22
Druggists .....	15	Patent Attorneys.....	22
Engrossers .....	15	Pattern Makers.....	22
Engineers' Supplies.....	17	Photographers .....	22
Engravers .....	28	Real Estate.....	22-23
Excavators .....	15	Rug and Carpet Cleaners.	23
Florists .....	15-16-17	Safe Guards.....	24
Flour and Feed.....	17	Scrap Paper.....	23
Furniture .....	17	Tin and Sheet Metal.....	26
Jewelers .....	18	Tobacconists .....	26
Lawyers .....	18	Undertakers .....	26

Another section of the directory contains a great amount of valuable information regarding national, state, and city governments. Under national government are listed the names of the President, Vice-president, Cabinet officers, and Supreme Court justices. Officials working for the national government but assigned to duties in the state are listed next. The Post Office officials, who are, of course, employees of the national government, also are listed in this section.

Under "State Government" are shown the names of all state officials, from the governor to the officers of the State Prison. Names of persons in the employ of the county and city follow, including the officials connected with the schools, the police department, and the fire department.

The greater portion of the directory is given over to the listing of business concerns and private citizens. The names are arranged alphabetically and are followed by the addresses and occupations of the persons mentioned. This is the way the names appear:

Baker D. Kiley, artist, 577 N Clinton av, h 80 do  
Baker Emmett, druggist, res 18 Ashland av  
Baker Frank J, laborer, res 539 Genoa  
Baker Frederick, potter, h 147 Sherman av  
Baker George, clerk, res 1533 S Clington  
Baker Handsford, clerk, h 750 Wabash  
Baker Harry A, machinist, h 723 Monmouth  
Baker Hyman, h 244 Clayton  
Baker James, superintendent, h 1070 Brunswick av  
Baker James C, sanitary presser, res 707 Spring  
Baker Jennie, wid Henry, res 24 Perron  
Baker Jennie E, wid James E, h 995 Stevens ct  
Baker Joseph, rubberworker, res 730 Seventh  
Baker Josephine, res 906 S Clington av  
Baker Julia D, res 580 N Clington av  
Baker Lermore, laborer, h 199 Frederic  
Baker Lewis M, h 33 Banksted  
Baker Lewis P, clerk, res 406 S Clington av  
Baker Lillian, res 53 Rosemont

In the back of the directory is the Classified Business Directory, in which the names of the persons or companies engaged in certain lines of work are listed. This section is convenient for buyers who are looking for

persons from whom they can purchase desired articles or services. The names are listed under classified businesses; for example, the names of all antique dealers are given under the heading "antiques." Some of the headings are:

amusements	coal	milliners
antiques	contractors	music teachers
apartment houses	dentists	news dealers
architects	department stores	nurses
artists	dressmakers	painters
automobile	druggists	photographers
dealers	fish dealers	physicians
bakers	florists	piano tuners
bands	garages	plumbing
barbers	grocers	printers
beauty shops	hospitals	real estate
carpenters	hotels	restaurants
churches	funeral directors	shop repairmen

The directory also has a section containing diagrams of streets arranged alphabetically with the numbers of the houses on each street arranged in order. Beside each number is the name of the person who lives in that house. If a house is unoccupied, the abbreviation *vac.* for vacant is placed beside the number. This section is called "A Numerical Directory of Householders."

Another section contains the names of all the streets and avenues, arranged alphabetically. There is a description of the location of each. This section is called the "Street Guide." The names of persons living on each Rural Delivery mail route going out of the city are listed in a special section headed "Rural Delivery Routes." Usually in one part of the directory are the

numbers and locations of all city fire alarm stations. There is a scale map of the city and, as a rule, there is an index of the various sections of the directory.

Directories in many cities are issued once a year. The material is gathered by an actual canvass of the city. Men go from house to house, securing the information needed.

Most publishers of directories belong to an association called the "Association of North American Directory Publishers." Each directory is copyrighted. No other printer may copy the material it contains.

#### ACTIVITIES

1. What steps would you take to find the address of a person whose name is not listed in the telephone directory?
2. Consult the classified business section in your local city directory and prepare an outline showing the types of businesses carried on in your community.
3. Using the city directory, make a survey of your community, showing the number of schools, libraries, parks, churches, and theaters.

#### SUMMARY ACTIVITY

Tell an actual experience you have had with a time schedule or a directory such as one of those described in this section. What are some of the specific things you had to know in order to read the schedule or directory correctly?

## SECTION VII

### Improving the Ability to Remember

*The student who reads well usually is one who has ability to concentrate on his work. To concentrate one must have interest. Both interest and concentration may be developed. Both will aid in helping one to remember what has been read or studied.*



## Getting Mentally Warmed Up

When you have finished reading this article, be able to give the important ideas in it. Then make an outline of it.

Glenn Cunningham, who was the world's greatest mile runner, spent half an hour or more getting warmed up before he ran a race that would last only a few seconds over four minutes. In warming up he ran a little, did some setting-up exercises, and then ran a little more. In order to stretch his leg muscles he moved his legs up and down, raising his knees as high as possible. As he ran, he moved his head back and forth to limber up his neck muscles. Then he did some more leg-stretching exercises and finally ran a quarter of a mile, putting on speed at the end. Before the start of a race he got all his muscles limbered up so that at the proper time they could do their best work.

Doing good mental work is very much like running. Ideas do not come immediately just because one has a letter, a composition, or an examination to write. The thing to do is to start to write—write something. First attempts may not be successful, but as one works at the task, ideas will come and before long some good work will be the result.

Sometimes a student has difficulty in concentrating on a piece of work. To concentrate one must first get the mental muscles warmed up. Too many boys and girls refuse to make the effort necessary to get warmed up so that they can accomplish what is to be done. The boy or

girl who just sits and looks at the book is unwilling to take the warming-up exercise necessary to get into a mental condition to work.

Concentration is easy if one has developed the habit of taking warming-up exercises. Two things are required in order to concentrate on work that needs to be done.

First, one must know the requirements of the lesson. One's mind must be fixed on a definite goal. If there is an assignment to be completed, it must be thoroughly understood.

Next, there must be a decision as to the best plan to follow in order to accomplish the task at hand. All the tools and materials needed to do the job must be assembled. Usually one cannot study a lesson at home if the information about it has been left at school.

One reason for inability to study is lack of interest. Interest, however, may be developed. Most people are interested in the work about which they know most, because they have enjoyed previous experiences with it. It is a good guess that the school subjects which a student likes best are those which he knows most about and in which he is doing the best work. Often the subjects preferred by one student are considered by others to be the hardest ones in a course.

To get started at a difficult assignment, a student should: first, plan where he is going to do the work; second, get the materials needed — as books, paper, pencil; third, when the time comes to begin work, refuse to let anything delay him.

A student may get in the habit of doing numerous little things that come to mind, simply to postpone the



start. He calls a friend on the telephone, gets a drink of water, turns on the radio to hear a certain program, looks in the mirror at his tie. When he finally sits down to work, he decides that his pencil needs sharpening. Then he decides that he is sleepy and will get up early in the morning to do the work. Of course, the chances are that he will not get up early. In desperation, he will probably ask someone else what the lesson is about, or perhaps spend ten or fifteen minutes before class trying to get some idea of what was in the assignment.

After a start has been made, the student should guard against the habit of letting other thoughts distract his attention from the job to be done. His attention should not be allowed to wander to baseball or to a party to be held the next day. A student who says, "I can't keep my mind on this work," is putting only a half-hearted effort into getting started.

When a job seems to be difficult, there is no reason to start worrying over whether it can or cannot be done. Generally, the worrying is just an excuse to keep from making the effort necessary to start doing the work.

Some students are perpetual wishers. They wish they could do good work; they wish they could get high marks; they wish they could make the ball team. The trouble is that they stop with wishes; they do not put forth real honest effort to reach the goal which they desire.

Two things will help a student keep up effort. First, he should be in good physical condition so that he will feel as if he were ready to "go somewhere." A straight-backed chair is more conducive to work than an easy chair. Second, he should make a game of his work. He

can deny himself something, perhaps listening to the radio, till he has finished the job. He may set a time in which to finish a piece of work and see if he can finish in that time.

After getting started and holding the attention to the job for a time, the habit becomes easy. Getting warmed up to the job often is the most difficult thing to do.

#### ACTIVITIES

1. What two things should students review in their minds before they begin an assignment?
2. State two things which will help students concentrate.
3. In the reading of what subjects can you apply the suggestions given in the article, "Getting Mentally Warmed Up"?
4. Mentally review the article and what it told you concerning the topics in the outline below. Next, complete the subtopics in the outline.
  - I. Cunningham warming up for a race
  - II. Concentration
    - A.
    - B.
  - III. Interest
  - IV. Distractions
    - A.
    - B.
    - C.
  - V. Keeping up effort
    - A.
    - B.

*Check your answers to 1, 2, and 4 with those on page*

## How to Remember

Read this article carefully to find which of the suggestions given might help to improve your memory. Take notes from your reading. Make them brief.

Some students learn quickly and are slow to forget. Other students learn more slowly, but when they do get ideas or information, they do not easily lose them. A third group of students, regardless of how quickly or slowly they learn, have difficulty in remembering what they have learned.

Many students try to remember everything they read. They put as much time on the unimportant details as on those which are important. Much of the information which is obtained from reading is of little permanent value; in fact, the mind can become clogged with so many details that the important thoughts get lost and are forgotten. If facts are not to be used, there is little need for remembering them.

A business man who has many appointments does not try to remember them all. He uses a memoranda pad and writes down for each day the things to be remembered and done. If a housewife goes to the store to buy several articles, she makes a list of them. When assignments are made in various classes, they, too, should be written down.

There is much information which need not be remembered for the reason that it can be located again, if there is occasion to use it. The location of towns and rivers on a map can easily be found again if necessary.

The important thing is to know where and how they can be located. .

The first rule for remembering is: try to remember only those things which are important for a given purpose and which cannot be secured in some other way when needed.

#### BE SURE WHAT YOU REMEMBER IS ACCURATE

One should be sure, before he attempts to memorize information, that the information which he is learning is accurate. Once fixed in the mind, incorrect information is difficult to remove in favor of a more accurate version. If, for example, a student carelessly learned 1592 as the date of the discovery of America, but later learned that the correct date was 1492, it would be difficult at some future time to remember whether the date was 1592 or 1492. If for some reason he memorized New York City as the capital of New York State, there would be a tendency, after the mistake was called to his attention, for him to remember his first impression rather than the corrected one. Usually the difficulty of remembering names or facts is due to failure to get a clear first impression.

The second rule for remembering, therefore, is: to be sure that the information learned is accurate, and that a clear impression is secured at the very first.

#### THOUGHT IS MORE IMPORTANT THAN WORDS

Too often failure to remember is due to lack of understanding of what must be remembered. Ideas are more easily remembered than words. If the thought behind the words is not thoroughly understood, memorizing

word for word or line for line will have little value and will be a waste of time. Recall will be difficult and will have little meaning. The causes of the French and Indian War, for example, would soon be forgotten if in learning them the student did not first secure a complete understanding of the whole situation. In the study of the topic a knowledge of the difficulties of France and England in Europe and a mental picture of French and English possessions in North America would be needed. The student would need to know where the settlements of colonists were located and where the Indians lived in relation to these settlements. These and many other facts would be necessary for clearness of comprehension and readiness of recall.

A rule in grammar or arithmetic will be forgotten soon, unless thoroughly understood when first learned. The thought and meaning of a poem, a short speech, or a part in a play should be clearly understood before any attempt is made to commit it to memory. The meaning and thought should be gone over and over as the selection or part is being learned.

In reading an article or a book, a clear understanding of the ideas contained in the material should be secured. The reader should put these ideas into his own words. The thought of the article or book is much easier to recall than the actual words in which the thought was expressed and is much more valuable to the reader.

The third rule for remembering is: be sure to understand the information which is to be remembered.

A vivid impression is one which is striking, vigorous, sudden, or intense. A person whose appearance is very striking, either because he is tall or very fat, has white

hair, has peculiar eyes or ears, or because his clothes are different from those worn by others, is much more easily remembered than one who has no striking features. Some events, such as accidents, are remembered more distinctly than ordinary happenings.

Things are vivid because they are different and because they present a contrast to ordinary events, ideas, or sights. Things may be vivid or striking to some but not to others. Experiences such as an airplane ride or a circus performance may leave vivid impressions. If the experiences are repeated many times, the impressions cease to be vivid.

Happenings of great interest are more vivid and are easier to remember than those in which there is little interest. Dramatic actions and scenes in which sudden, unexpected changes take place, are easy to remember. In a story which tells of exciting events the reader, by pretending that he is one of the characters in the story, lives through the same experiences. An active imagination helps the reader to remember the story. The facts of geography may be easily remembered if the student imagines that he is visiting the countries and cities about which he reads.

Cartoons are easier to recall than illustrations which lack exaggeration. For many people amusing pictures, such as cartoons, are easier to remember than those which lack humor.

One can help his memory by being interested in what he wants to remember, and by imagining that he is having the experiences about which he is reading.

The fourth rule for remembering is: make impressions vivid.

## OVERLEARN FACTS

When one is learning information which he hopes to remember, he should not stop studying it, if he has learned it only to a stage at which recall is difficult. Such an effort is more or less a waste of study time because the facts will soon be forgotten. Too many students study important ideas and information only for a day's recitation. When the weekly or monthly test comes, such students cannot recall needed information. The reason for this quick forgetting is that overlearning of facts and ideas is needed for recall.

The time spent in reviewing material after it has been learned is most profitable. One should go over the things to be remembered a few times even after the facts have been learned thoroughly. It is these few minutes of extra learning which do most to improve one's memory.

The fifth rule for remembering is: overlearn facts which need to be remembered for some time.

## PROVIDE FOR REPETITION

Repetition should be made at intervals after the first learning. One of the reasons why tests are given at frequent intervals is to provide for recall of information learned during study. The further one becomes removed in time from the original learning of material, the longer can be the intervals between recall. Thus after learning has taken place, the first recall should come shortly afterwards; the second recall should follow at a longer interval after the first one.

A student would do well to recall the information in a lesson the day after having learned it. If a second attempt at recall is made after a week has elapsed, and

a third after a month, and still another in four or five months, the material will be remembered easily. The farther away one gets from the original learning, the less frequent the reviews will need to be, since the rate of forgetting decreases with time.

When a student needs to recall information for a speech, recitation, or test, he should have confidence in his memory. Because of their lack of confidence, many students fail to do as well as they might.

When one tries to remember an idea or item of information and his memory fails him, by leaving the point and coming back to it later, he may be able to recall it. A girl, for example, tries to remember a man's name. She can remember things about him, call to mind how he looks, but she cannot remember the name. She tries and tries to remember it, but fails to do so. A few hours later, or even the next day, the name suddenly comes to her mind.

When a student is reviewing for the purpose of fixing ideas in mind, it is better to spend short periods at frequent intervals than to put all the time on one review. This is one of the reasons why reviews should not be left until the night before examinations and tests take place. It is much better to begin reviews two or three weeks ahead and to review for short periods at a time.

The sixth rule for remembering is: provide periods at frequent intervals for repetition and review after learning.

#### LEARNING TO RETAIN INFORMATION

The knowledge and information which one carries in his mind is retained there in different forms or in combinations of forms. A student may read that "The



elephant is the largest animal living on land." This idea may be retained in his mind and later recalled. If, in addition, he has seen an elephant perform in a circus, has thrown peanuts to one in a zoo, or has watched motion pictures of elephants, his information about an elephant will be not only in terms of ideas expressed in words, but also in terms of mental pictures secured from pictures of elephants and from seeing live elephants. The more experiences the student has had with elephants, the greater ease he will have in recalling them.

A boy may read an account of a basketball game between his school and another school. Later he can recall a sufficient number of items to make it possible to describe the game. He may have seen the game as a spectator. From his observations of the game and the mental pictures of what happened, he can give a more complete description of it than if he merely had read the account.

If one were to describe a trip to a large city, information would be recalled from the remembrance of things seen; from remarks people had made about the city while there; from the sounds heard which were recalled, such as the call of the newsboys, the rumble of elevated trains, the honking of automobiles, the whistles of policemen; and from one's own experiences in walking, riding, eating, and sleeping in the city.

If a meal eaten at a restaurant were to be described, the names of the foods given on the menu, the sight, flavor, and odor of the different foods eaten, would be recalled. Even such details of the meal as whether the soup was hot or cold might be recalled.

Information is retained in a variety of forms. Most of it is retained in the form of words, mental pictures, sounds, and physical action. Some information is carried in the form of impressions such as of cold, warmth, and toughness. Still other information is in the form of smell and taste.

A good rule to follow is to learn information in the same way that one will need to recall it later. If one is preparing for a written test, the answers to questions should be written. If a speech is to be given, one should practice putting his ideas into words before appearing before his audience. Learning how to do something, such as making a cake, should be learned by actually making a cake. Typing skills are developed chiefly by actual practice with a machine. The best way to learn to swim is to practice swimming.

The seventh rule for remembering is: try to remember information in a number of ways if possible, but especially in the way in which it will later be recalled and used.

#### ORGANIZE FOR REMEMBERING

One of the most important aids to retention of information is good organization. Working ideas and thoughts into a definite system makes them much easier to recall later.

In storing information about a story, a trip, historical events, or some development in science, it is helpful if the material is remembered in terms of the time order in which the events occurred. When a story is to be told or a trip described, it is natural to give the events in the order in which they took place. If events are arranged in this way after the story has been read or the

trip taken, it will be easier to recall them. One experience or event calls others to mind. Recalling details of a process will be easier if steps are organized in proper sequence. To tell how shoes are made one should begin with the tanning of the hides and go through the various operations performed in the factory to the time a pair of shoes is completed.

When learning something new about a topic, it will be helpful if one decides how the new knowledge fits into what is already known. The better one is able to relate new ideas to old ones which are connected with them, the easier it will be to remember the new ones.

Maps, tables, charts, graphs, and diagrams are helpful in organizing information. A map helps to show the location of one country in relation to others. A graph makes a comparison and may show the relation of parts to the whole. One graph, for example, may compare the wheat production of several countries and it may show, also, the relation of the wheat production of one country to the total output of several. The graph organizes the information because it shows the order of production from the largest to the smallest. Tables also help to organize information. The batting percentages of major league baseball players arranged in a table will help to fix this information in one's mind for later reference.

If possible, one should relate information to other information. Associating an idea or fact with similar information helps to prevent losing it. When one is introduced to a stranger, he should know the stranger's name, try to picture it in writing, get a mental picture of the person, and make a mental note of everything

known about him. Perhaps something is known about his business, or some details of a recent trip which he has taken, or games he enjoys. If one tries to recall the person's name and it does not come to mind, the mental picture of the way he looks may help to recall the name. Perhaps the thought of the games he enjoys, his business, or some of the details of his trip will supply the means by which the name may be recalled.

No fisherman would throw baited hooks with no lines attached to them into the water and expect to pull out fish. Neither should one put information in his mind without a line with which to pull it out. The more mental lines one has, the surer he will be of remembering information when it is needed.

When the stanza of a poem is to be memorized, it should be learned as a whole, not line by line. The whole stanza should be read over and over, and then an attempt made to recall it from beginning to end. If this cannot be done, the whole stanza should be reread again. Many lessons should first be studied as a whole and then later organized into important and less important parts.

The eighth rule for remembering is; organize information, work ideas into a system, and relate information to other ideas or facts of a similar nature.

#### ACTIVITIES

1. Write on your paper the eight rules for remembering. Use your notes, but do not refer to the article.
2. Tell what application you can make of the eight rules for remembering in your school work.
3. In what way or ways did you read this article?

4. Memorize a poem or short prose selection by the aid of one or more of the rules for remembering.
5. In a dictionary find a synonym for each word in the following list. Do not write the synonyms until you have completed the list. Then copy the list given here and from memory write a synonym for each. Example: various — different

vivid	relate	evaluate	occurred
worth	intense	difficult	relative
seldom	secured	determine	indicate
convey	details	quantities	discover

6. How would you apply the rules for remembering in the following situations?
  - a. Remembering the names of strangers to whom you were introduced at a party.
  - b. Remembering the new words in a spelling lesson.
  - c. Remembering football signals.
  - d. Remembering the outline of a talk which you are to give in the auditorium.
  - e. Remembering what you see in a visit to a museum.
  - f. Remembering what you hear in a radio debate in order to report accurately a summary of it to someone who had not heard it.

## Good Manners

Use the method of reading that will help you to understand and remember what this article tells you.

There are certain accepted patterns of conduct that characterize a well-bred person in such places as the dining room, the passenger train or bus, the elevator, the classroom, the theater, and the business office. Writers have gathered together these rules of behavior into books, called books of etiquette. Etiquette is just another name for "correct behavior."

In many newspapers there are daily columns in which writers try to answer questions of etiquette that bother people. Individuals ask such questions as:

1. Is it proper for a man to walk between two girls when strolling down a street?
2. Should a man offer his hand when being introduced to a lady?
3. Should a young man get out of the car and open the door for a young lady?
4. Should a lady precede her escort down the aisle in a theater?
5. Should a gentleman precede a lady in getting off the streetcar?

These questions may seem unimportant. They are unimportant except that a knowledge of the correct answers indicates a person's ability to mingle with groups of people who use good manners. A person who knows how to act correctly can associate easily with many

groups of people. A person whose manners are not correct can feel at ease only with people whose manners are like his own.

By manners is meant the ability to do or say the right thing in the right way at the right time. To know how to act properly in the company of others brings a comfortable feeling; not to know how to act properly causes discomfort. It is as important to learn to act correctly as it is to learn to speak correctly.

Many rules of etiquette seem foolish today, but when they were started, they usually had a real purpose, although the purpose may not now be recognized, or even necessary. In the past a man's life often depended upon whether or not he observed good manners.

One very old rule of etiquette is that a gentleman must always offer his right hand when shaking hands. The origin of this custom dates back to the time when men carried swords. Since the great majority of men were right-handed, they carried their swords on the left side, and drew them with their right hands. To show a friendly spirit when meeting acquaintances, they would stretch forth their right hands and expect their acquaintances to do likewise. When right hands were clasped, they could not, of course, draw their swords. When firearms superseded swords, the custom was continued. A man offering to a friend his right hand in welcome showed that he trusted the friend. If he did not trust him, he would keep his hand very close to the curved handle of his holstered gun.

Since ordinary citizens no longer carry weapons, the need for protecting oneself by holding the other's right hand has now passed. In boxing and wrestling matches,

however, the shaking of hands at the beginning of the match still serves the same purpose to a slight extent. The right hand is still the more powerful hand in securing holds. Hence while opponents are shaking hands, neither one can secure a great advantage over the other. After the handshaking is finished, the referee separates the two rivals before the bout begins.

Another rule which used to be followed was that a hostess should always begin to eat first. This rule is not followed today but it was carefully observed in by-gone days. In ancient times one of the easiest ways to remove an enemy was to invite him to dinner and then serve him poisoned food. During the fifteenth century the Medici family of Italy was especially famous for such a cold-blooded practice. Many persons who were afraid to refuse a dinner invitation of the Medici's made their wills before responding.

Gradually it became the custom for the hostess to taste each food before it was served to her guests. In this way she showed that the food was not poisoned. Everyone watched the hostess keenly before he dared take a taste of the food that was served.

One old rule of etiquette has changed chiefly because of the reason for which it is followed. One of the chief duties of the knights of the Middle Ages was the protection of women. The knight always carried a sword at his left side. To protect his women companions, he always had to have his right hand free and needed sufficient room to draw his sword quickly if danger should suddenly approach; therefore, knights always walked on the right side when accompanying ladies.

Since gentlemen today do not carry swords, it is no



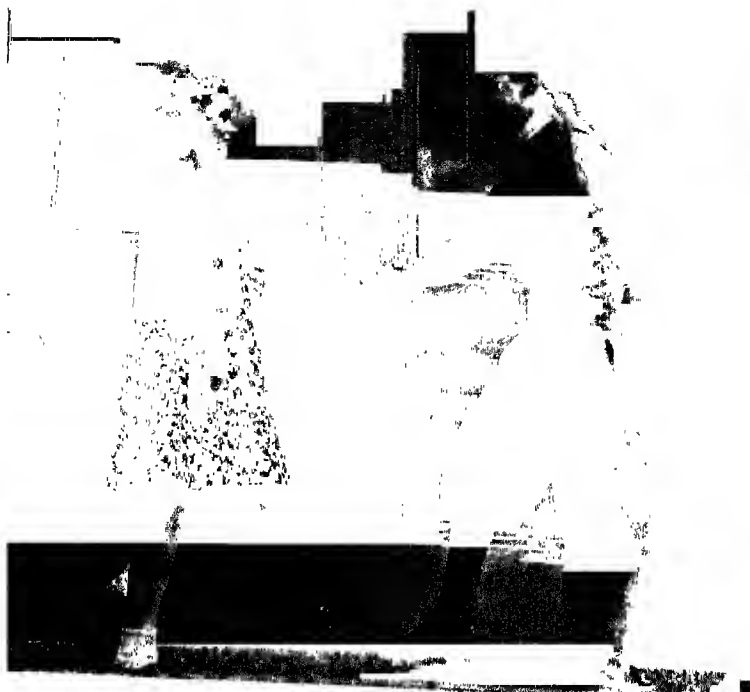
longer necessary for them to walk at the right side of their ladies. Dangers, however, exist in the crowded traffic of the street. It is not uncommon for water to be splashed by passing vehicles. Uncontrolled automobiles at times dash up on the sidewalk. The gentleman, therefore, always walks on the outside near the street curb where his body protects his companion's to some extent.

A gentleman removes his hat on entering a home. At one time a hat, or helmet, was one of man's greatest protections. It turned aside downward blows delivered by club or sword. By taking off his hat, a gentleman showed that he trusted the persons whom he was visiting. He was placing his life in their hands. To keep the head covered was an indication of distrust, and a host or hostess was justified in considering the act an insult. Today the custom remains, although the circumstances that caused it to grow have now vanished.

A gentleman rises when another person approaches the ladies with whom he is talking. A man on his feet has always been considered better able to protect his companions, if the approaching person should by chance cause them trouble.

Gentlemen step from trolley cars or busses before their companions. Many hundreds of persons each year are killed by automobiles speeding by trolley cars or busses at unloading points. Women are often injured by tripping or catching high heels in the steps of vehicles. For those two reasons gentlemen precede ladies. They keep careful watch for approaching vehicles and help ladies to descend the steps.

It is considered impolite for a man to shake hands while keeping one hand in his pocket. This rule may



*11. Armstrong Roberts*

have a history, too, and a recent happening in our own country may be used to give some idea of the origin of the etiquette.

Recently a group of prominent men were being led into the office of the President of the United States. One man, just before he was introduced, was asked by a secret service man to remove his hands from his pockets. The man, startled, did as he was asked. Not until later did he realize that the secret service agent was afraid that in his pocket was a concealed weapon.

There are numerous other forms of etiquette, some of which have lost their usefulness with the passage of time. Others, however, still serve their purpose in an age that believes gentlemen should continue to use their strength and quickness to protect women from danger, discomfort, and insult.

## ACTIVITIES

1. Number your paper from *a* to *h*. After each letter write a short statement to answer the corresponding question.
  - a*. Why should a man offer to shake hands when introduced to a lady?
  - b*. Why should a guest, when hot dishes are served, begin to eat as soon as served?
  - c*. Why should a man, in walking on the street, always walk on the right side of a lady?
  - d*. Why should a man precede a lady in going out-of-doors?
  - e*. Why should a man not have his left hand in his pocket when shaking hands?
  - f*. Why should a man walk between two ladies when walking down the street with them?
  - g*. Why should a guest remove his hat on entering a friend's home?
  - h*. Why should a boy rise when someone comes up to say something either to him or to the lady with whom he is talking?
2. Make a list of situations in your own experience in which you are not sure of the correct thing to do.  
*Check your answers to 1 with those on page 552*

## Courtesy in Conversation

Read to understand and remember the rules of courtesy given in this article.

There are people who claim that the art of conversation, so highly developed in other ages, is slowly dying. It is probably true that people talk just as much as they did in former days, but neither the listeners nor the speakers are as courteous as they once were. Without courtesy on the part of both speakers and listeners, polite conversation cannot exist.

In his autobiography Benjamin Franklin tells how his father trained him to realize the value of good conversation. His father, a highly-respected citizen of Boston, frequently invited travelers to his home for dinner. At such time there was no effort to prepare a special meal. The meal often consisted of nothing but porridge served in cheap tin dishes. Neither the guests nor the Franklins noticed such details as the quality of the dishes or the lack of variety in the food. Brilliant talk flowed around the table. The travelers told of the sights they had seen in other sections of the country. They gave intelligent replies to the questions put by Mr. Franklin. The discussion of conditions in the country gave young Benjamin an education that was more valuable than the years of schooling he missed.

Nearly everyone finds it necessary to talk quite frequently each day. People have come to think of talking as merely a means of helping them in their business.

They forget that talking to friends is a pleasant way to spend an evening. Today people seldom gather merely to talk. Talking is usually a side line. Men and women meet over the bridge table; they meet to dance, to attend the theater, or to have dinner together.

Some of the rules of etiquette which formerly were known and practiced were:

Only one person should talk at a time. In a group it may often be noticed how friends interrupt a person who is speaking whenever an idea jumps into their minds. They never say "Excuse me," or "May I have your permission to interrupt." They insist upon making their contribution whenever the spirit moves them, and sometimes what they have to say is unimportant.

It is usually considered impolite to interrupt a speaker, with even an "Excuse me." The interruption is bound to break into his train of thought. The "joker" is even more rude. The "joker" usually selects a word of the speaker and interrupts to make a joke of that word. It may happen like this:

Speaker: "I spend hours every day in an effort to train my children to—"

Joker: "Ah, so you're an animal trainer."

The group of listeners may laugh, but usually they do so only to cover the rudeness of the "joker."

Another type of interrupter is the one who likes to show his great learning by finishing a sentence for the speaker, as:

Speaker: "I had never before met the author of  
*Anthony Adverse*, Mr.—"

Interrupter: "Hervey Allen."

Still another type of interrupter is the one who, when listening to the speaker, is reminded of an experience or thought of his own. He insists upon telling his neighbor of the event, thus drawing attention from the speaker and causing the neighbor to appear impolite.

One should not talk "shop." By this expression is meant that conversation should include other more interesting topics than the number of sales the speaker made last week, the forgetfulness of the speaker's "boss," or the reason his vacation was postponed. These facts are interesting to the speaker, but not necessarily to his companions.

In some wide fields of knowledge, a great deal of benefit can be secured from talking "shop." A group of lawyers, for example, can find much profit and interest in discussing decisions of the Supreme Court. There is nothing narrow or uninteresting in the conversation of physicians regarding new methods being tried in the cure of cancer.

Students are talking "shop" when they tell about the little things that happen to them in school during the day. Parents may be interested, but very few other people are. Some topics, which pupils are heard discussing, are not "shop" talk. Pupils who can talk intelligently on such topics as these are considered interesting by their friends:

1. The two teams with the best chance of entering the World Series.
2. What school children think of war.
3. Reasons for disliking or liking particular motion pictures, books, and plays.
4. Methods of raising pigeons (or another hobby).

5. The history of local buildings and streets.

Conversation should not lag. Whenever a painful silence occurs, the skillful conversationalist knows exactly how to create interest again, either by bringing in a new thought on the old topic or by introducing a new topic.

Illnesses should not be discussed. Because one has suffered through an operation is no reason to make his friends suffer, too. Friends usually do not want to listen to a lengthy description of illnesses. Then, too, many illnesses are not pleasant topics for conversation. No one wants to occupy his mind with thoughts of boils, sores, decayed teeth, colds, or sinus trouble.

Do not waste the time of listeners by thinking aloud. A person who "thinks aloud" tells a story in this fashion:

"A mistake by a porter almost caused my death once. It was in the railroad station at Chicago. Or was it Denver? It might have been Topeka. I traveled all over the West that summer, and the stations are rather mixed in my mind. Let me see. It wasn't Denver, because my Aunt Frances met me at the station there. Oh, I have it! It was Chicago. I remember because I asked the porter where the American Hotel was, and the American Hotel is in Chicago. This is how the porter almost caused my death. He—."

Get others to take part in the conversation. Some of the best conversationalists are those who say very little but always succeed in drawing the entire company into the conversation. A shy listener always appreciates someone's saying, "Now, Joe, tell us about the time you offered to help a magician in his stage act."

A good conversationalist uses ability to speak, not to hold the spotlight but to fill in the gaps and to draw others into the conversation. He shows interest in what others are saying. In addition to being a good speaker, he learns to be a good listener.

Malicious or "catty" gossip should not be indulged in. In public, names of persons should not be mentioned except in a favorable way. There are people who like to hear, and pass on, mean things about other persons. This is the worst habit a conversationalist can have.

Do not speak in riddles. It is most impolite to make secretive references to one person without explaining to others what the conversation is about. One person says, "Oh, Joe, I asked the principal about that matter we were discussing yesterday. He said it was all right to go ahead." This may cause embarrassment to listeners who are made to feel like outsiders. The impression given is that some of the group are not trusted.

Watch the speaker. It is not polite to read or gaze out the window when he is speaking. One should show by his attention that the speaker's words are worthy of attention.

Talk quietly. The most interesting speakers have quiet voices. Do not force attention by loudness of voice. People will be more apt to listen attentively if the voice is kept low.

Many people need practice in the art of conversation. Opportunities for practice are frequent. In school, at home, on the street, and during visits numerous opportunities to practice making oneself interesting to other people will present themselves. One can always test himself, too, by watching the faces of those with whom



he is talking. If he remembers that the good conversationalist is one who breaks into long silences with interesting sentences, who draws others into conversation, and tries to direct the conversation in such a way that no one person talks too much — if he remembers and practices these three things, he will improve his conversation rapidly.

## ACTIVITIES

1. Add ten *Do's* and *Do Not's* to these lists:

Do's

Talk in a quiet tone  
of voice.

Do Not's

Do not interrupt the  
person speaking.

2. Use each of these words in a sentence. If you are not sure of the meaning of a word, look up the word in a dictionary.

betray

manners

startle

holster

mingling

behavior

etiquette

prevailed

concealed

interrupt

particular

appreciated

comfortable

autobiography

3. How did you read this article?
4. How did you try to apply the suggestions for "getting warmed up" and "remembering" in the reading of this article?

## Making Friends and Keeping Them

Seven rules for making and keeping friends are given in this article. When you have finished reading, be able to write them from memory.

Some people seem to be able to make firm friends and to keep them. Others go through life with acquaintances they cannot really call friends.

The ability to make friends is one that can be developed. Several colleges teach courses on the subject of "getting along with people." Educators feel that much of the success of pupils in school and later in life will depend upon how well they can create friendliness in the people with whom they come in contact.

Benjamin Franklin was one of the first men to realize that one can make friends by following certain rules. While clerk of one General Assembly in Philadelphia, Franklin noticed that one of the most influential men of the Assembly seemed to dislike him and to oppose everything he did. Franklin began to fear that the man might use his power to take away a contract for printing the official bulletins of the Assembly. Because of this belief, he deliberately set out to make his enemy friendly toward him. By reading a few paragraphs of Franklin's *Autobiography*, it is easy to discover the rule that Benjamin used to turn an enemy into a strong friend. In his book it says:

"Having heard that he had in his library a certain very scarce and curious book, I wrote a note to him,

expressing my desire of perusing that book and requesting that he would do me a favor of lending it to me for a few days. He sent it immediately, and I returned it in about a week with another note expressing strongly my sense of the favor. When we next met in the House, he spoke to me (which he had never done before) with great civility; and he ever afterward manifested a readiness to serve me on all occasions, so that we became great friends and our friendship continued to his death."

It will be noticed that Benjamin Franklin made a friend by asking a favor. Franklin did not attempt to do a favor for the Assemblyman. Franklin knew that men, as a general rule, grow to dislike people who do them favors because receiving favors always makes the recipient feel inferior. On the other hand, men usually grow to like persons whom they have helped. Helping others gives one a pleasant sense of superiority.

It would have been a mistake for Franklin to try to win the Assemblyman's friendship by doing him a favor. The Assemblyman would have been quick to suspect that the favor was a kind of bribe. Doing a favor for Franklin was a different matter. The Assemblyman was led to believe that Franklin liked his taste in books and admired his ability to find and purchase unusual volumes. Most men grow to like the persons who admire them.

Early in life, Benjamin Franklin discovered and used one of the most important rules in making friends. The rule is: "To make a person feel friendly toward you, get him to do you a favor."

Because Benjamin Franklin knew how to make people feel friendly toward him, he was sent to France to secure

the aid of France for the colonists in the American Revolution. Franklin became the idol of France. He was so popular that he made the people of France want to help America. It was largely due to the help France gave the colonies that this country was able to win its independence from Great Britain.

Benjamin Franklin's second rule for making friends is one that everyone should follow. He said, "I will speak ill of no man, and speak all the good I know of everybody."

There are times when each of us feels that another person deserves criticism for his actions. Yet criticism does little good. Especially harmful is the criticism that is spoken behind the back of the person concerned. Unkind words, even when spoken to those whom we regard as our friends, often get back to the person about whom they were said. That person will always remember the unkind words that have been spoken about him and probably never will feel friendly toward the one who spoke them. The second rule for making friends then, is: "Never gossip or say unkind words about other people."

Everyone has some interest or hobby that may be different from the interests or hobbies of many other people. For him that interest or hobby is one of the most important things in life. He enjoys talking about it, and often he cannot see why other people are not equally interested in it.

A baseball enthusiast once took a train trip with a man whose hobby was gardening. Since neither of them showed any enthusiasm for the other's interest, the conversation languished. In fact, within a few minutes, the man interested in gardening began to read a flower

catalogue, and the baseball enthusiast became engrossed in a sports magazine. Neither of the two tourists ever became acquainted.

Emerson, the great writer, used to say, "Every man I meet is my superior in some way. In that, I learn of him." Emerson would have advised the first traveler not to begin to read a sports magazine, but to ask his seatmate questions about flowers. The baseball "fan" would have found his time not wasted. He would have learned much about flowers from his companion. The gardener, on the other hand, would have become most friendly, for everyone likes to talk about his hobby. The third way to make friends, therefore, is to show an interest in the things in which other people are interested.

It is forgetting the third rule that causes many friendships to grow weak. Two boys, both taking Latin in the ninth grade, became friendly, for they had one common interest. They were both having difficulty passing their Latin course. They studied their homework together. Their fears, hopes, and work were the same, and they liked to talk about them to each other.

During the next year, however, the two boys were separated in class. One boy continued his Latin. The other transferred to a commercial course, and his subjects were much different. Each had different interests and instead of trying to understand the problems of the other, they began to drift apart and to seek friends with similar interests. More than one common interest may be necessary to hold a friend.

When his master returns home from work, a dog shows his affection in innumerable ways. His eyes sparkle, his tail thumps, and his bark resounds joyfully

throughout the house. The dog is a shining example of the fourth rule in making friends. The rule is: "Show the person you are meeting that you are very happy to meet him."

There are four ways in which one can show pleasure in meeting a person. One is by means of the voice. A hearty, welcoming, joyous voice is bound to make a person feel that the speaker is sincerely glad to see him. A second means is a firm, full handshake. There is nothing like a limp, cold handshake to deaden the feeling of joy with which one person meets another.

The facial expression also plays a part in a pleasant greeting. A smile is recognized in any language as saying, "We'll get along well, for I like you already."

A feeling of friendliness may be created by the spoken word. What one says means as much as how he says it. His first words must be kind, interesting, and must show that he believes his friendship is well worth cultivating.

The fifth rule for making friends might be worded something like this: "Always treat a person's name with respect." Pupils often fasten upon their classmates nicknames, such as Fatty, Skinny, Slats, Freckles, or Shorty. Although the persons nicknamed may not openly object, they will admit that the names often hurt. They would feel much more friendly if they were called by their real names. One danger of nicknames is that they often last throughout life. A girl who may not mind being called "Freckles" in elementary school may resent the same nickname when she has grown into young womanhood.

James Farley, a prominent leader of the Democratic Party, knew 50,000 people by their first names. He

always treated their names with respect. He made people feel that he considered them important. They showed their appreciation with votes. The student candidate for office who knows most of the students by their first names is more likely to be elected than the candidate who has never bothered to know the names of his classmates.

Jack Dempsey, former boxing champion of the world, meets an average of 300 persons each day. He says, "I never let them down. Most of them claim to have met me at some former time. I agree with all their statements, call them by their first names, and try to show them that I consider them among my best friends." Dempsey's popularity is largely built upon his ability to make people feel that their names have played an important part in his career.

The sixth rule for making and keeping friends is: "Encourage other persons to talk about themselves." An issue of *The Reader's Digest* carried this statement, "Many persons call a doctor when all they want is an audience." Probably this statement is true because most people like attention. Everything that happens to an individual is important to him. His troubles, his sicknesses, his triumphs, and his ambitions, however, are often considered unimportant by his acquaintances who only want an audience for themselves. The man who can be that audience and let others talk to him while he keeps his troubles to himself is very likely to have a large circle of friends.

The man who can talk only about himself is considered a bore. People avoid him. The man who can listen with an air of interest while another talks about



himself often is considered a good conversationalist. People enjoy his company, because he appears to be interested in them.

The seventh rule for making and keeping friends is: "Never argue. The best way to win an argument is to avoid one."

A leaf may be taken from Benjamin Franklin's notebook in this respect. As a boy, Benjamin Franklin loved to argue. Usually he won the argument but lost a friend. He found that when he said to a friend, "You're absolutely wrong. The truth is—," that person immediately began to dislike him. Ben's love of argument was gradually losing for him all his friends. Finally, an older friend mentioned this to Ben.

"Ben, you're too positive," he said. "You make your friends feel foolish. You make them feel that their opinions are worthless. They are beginning to avoid



you, as they would avoid anyone who made them lose their feeling of importance. That is not very wise."

Benjamin Franklin was wise enough to change his ways. From that day on he never said, "No," "You're wrong," or "That's not true." He substituted for these statements such words as, "It seems to me," "Do you think," or "I have heard." This does not mean that Franklin gave up his opinions or failed to express his opinions to others. He simply changed his style of expression. By asking questions, he gradually turned the thoughts of his friends onto the right path and let them change their opinions for themselves. Franklin found that he could get his ideas across much better that way and could do it without arousing dislike in the minds of his companions.

Salesmen, whose livelihood depends upon their ability to sell their products, have made it a rule never to argue with a customer. A salesman may win an argument, but he is almost certain to lose a sale.

There are many other rules one can use for making and keeping friends. The seven presented here are among the most important. Reading the rules will be of little value unless application is made of them. Life is a laboratory in which the rules may be applied daily. Following these rules in the classroom, at home, and in playtime should be of service in aiding one to win more friends and to keep the friends he has already made. Few things in life are more important than making and keeping friends.

#### ACTIVITY

Without rereading the article, briefly state the seven rules mentioned.

## The Work of a Committee

Read this article to find the answers to these questions: (1) What work should a committee perform? (2) How should it go about doing its work? (3) What are the qualifications for a good committee member?

Almost every organization performs at least part of its work through committees. School committees may be chosen to study special topics and later to report on them. Much of the work of the student government may be carried out by committees. Clubs need committees to plan and carry out various activities.

The work of committees is important, not only in school but also in community life outside of school. Parents may belong to one or more organizations, such as a church, club, lodge, society, or political organization. Each of these carries out much of its work through committees.

A city council and a school board have committees. A state legislature and the National Congress also function through committees that have certain types of work to perform.

If it were not for committees, much of the work of the world would not get done. There is often more business to be done in an organization than any one person has the time to undertake. It is customary, therefore, for the work to be divided into parts which are assigned to a number of committees. There are many services which a small group of people can perform more efficiently than a large group can.

A class in school may decide to have a party. A great deal of time would be wasted if everyone discussed all of the details of planning and running the party. A certain amount of work should be done by small groups. The class may appoint or select a number of committees to do certain kinds of work in preparation for the party. If each of these committees does its work well, the party will be a success. There may be a committee for each of the following kinds of work:

Decorating

Refreshments

Entertainment

Chaperone

Clean-up

Ticket selling

If a committee is to be efficient, every member must do his share. He can do this only when he is willing to work, is capable of doing the work, and knows how to work with others. It is important that a committee member be selected because of his special ability to do the work assigned to the committee. Some members of a class may do good work on an entertainment committee but not on a refreshments committee. Others, talented in art, may do well on a decorations committee.

The work of committees varies. The members may be asked to study a question and make a report. They may be asked to make recommendations of various kinds or they may have certain duties to perform. Whatever their work, their first task is to understand clearly just what they are to do. Committees often waste time because members do not first clearly define exactly what their tasks are to be.

When the work of the committee has been discussed and is clearly understood, the question to be decided

is how that work shall be carried out. Each member of the committee should be permitted to express his ideas. No member of a committee should insist that his plan is the only one to be considered. The suggestions of every member should be considered, and the best plan selected from all of the ideas presented.

A committee may decide on various plans of work. Sometimes it will seem best to divide the work among the members; at other times the committees will meet as a whole to study their problems in order to discuss them at a later meeting. A definite plan of work to be accomplished should be made, and each individual should understand what he or she is to do. The length of time in which the work is to be completed should also be clearly understood. The date, time, and place of the next meeting should be set, as well as the purpose for which it is called.

A committee report or recommendation may consist of merely putting together the work and the results of the study of individual members. This may or may not be difficult, depending on the kind of report or recommendation to be made. Frequently the report of work done by individuals needs to be revised so that it will fit into the complete report. This putting together of the parts contributed by members is sometimes done by the whole committee, which goes over the parts and revises them. At other times one member is asked to fit the parts together.

Forming the committee report is not so easily accomplished. On many questions there is a difference of opinion. When recommendations are to be made, committee members often disagree.



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A good committee member is one who can present his difference of opinion without antagonizing other committee members. He should present his views and ask for their consideration. He should also listen to the views of other members and study them with an open mind. One of the most difficult lessons to learn is to consider all sides of a question fairly, no matter by whom they have been presented. Too often there is the feeling that one person has put over his ideas without consideration for the views of others. When committee members allow this situation to arise, they forget that their responsibility is to help in every way to present the best judgment or thought of the whole committee, not that of the most stubborn member.

There are times when committee members must compromise because an agreement cannot be reached. There are some occasions when honesty demands that a committee report a disagreement among its members. In such cases the committee gives not only the opinion of the majority but also that of the minority members.

The report of a committee usually is given by the chairman. Sometimes two or more members each present one phase of the final report. A part of some reports may be presented by each member. The way in which a report is made and by whom it is presented depends on its nature.

On many committees there are members who are "yes" people. A "yes" person is content to let another think for him. Sometimes this other person is a friend. Whatever opinion or position this other person takes, the "yes" member supports it. This type of member is of little value on a committee.

A good committee member is always honest in expressing his ideas. He is willing to compromise if he honestly can do so. He strives to look at the question under discussion with an open mind so that the best answer or solution to the problem can be found. A good committee member respects the opinions of others, even though he does not agree with them. He may argue vigorously, but he does not lose his temper.

The discussion in some committee meetings is confidential, that is, not to be repeated outside of the meeting to others who are not members of the committee. When it is understood that what is said in the committee meeting is not to be repeated, every member is on his honor not to violate this agreement. The ability to

keep a confidence is one that everyone should develop early in life. Committee members who cannot or will not do this are soon known and are kept from membership on certain committees.

A good committee chairman must be a good manager and must also be willing to set the example for the rest of the committee. He must be able to guide the discussion in the direction of the work to be done. Committees often waste time in aimless discussion of the question, or in talking about things which have no bearing on the committee's work. A good chairman sees to it that everyone has a chance to express his ideas. He keeps attention directed to the important points for consideration. When discussion wanders, he brings attention back by a question or a suggestion.

The chairman should be diplomatic and should avoid offending or hurting the feelings of any member. He must see to it that every member of the committee understands what he or she is to do. Often the chairman has to check on individuals to see that they do not forget to accomplish what they have agreed to do. He must see that the time and place of meetings are clearly understood. This frequently involves a second reminder just before a meeting.

It is the duty of a chairman to prevent individual members from making long, wordy speeches, to prevent the monopolizing of the time of the committee by one member, to solicit opinions of other members, to summarize at the end of the meeting what has been said or done, and to set an example for other members in the promptness with which he appears at meetings and in the thoroughness with which he completes the work

assigned to him. He should be prepared to present in good form his committee's report at a meeting of the entire organization if called upon to do so.

Working on committees in school is valuable training for one who is willing to learn by experience. Committee work should teach one to respect the opinions of others. It should teach one to consider questions with an open mind, to be honest in one's opinions, and to be willing to do one's share of the work. In other words, it should train one to work with other people in a friendly, co-operative way even though one does not always agree with them. It should teach one to be considerate of other people by developing the habit of promptness in attending meetings. One should learn to avoid wasting time in discussion which is not to the point, and one should give the other fellow his share of the discussion time.

### ACTIVITIES

1. When should the work of an organization be assigned to a committee?
2. Give the three or four steps which should be taken by a committee in going about its task.
3. List the qualifications of a good committee member.
4. What qualifications should a good committee chairman possess?



## Avocations for Everyone

Read to find what an avocation is and why it is important to have one.

When people worked at their jobs for twelve or fourteen hours each day, there was little time for them to be concerned with avocations. Their vocations left little time for any other interests.

A vocation is the type of work one does as a means of earning his living. It is his occupation. An avocation is any work in which he finds pleasure and recreation outside of his vocation.

What is one man's vocation may be another man's avocation. A stenographer may spend her leisure time composing music or writing poetry, simply because she enjoys such work. Another person may make a vocation of composing music and writing poetry, and thereby earn his living.

Many people find great pleasure in avocations. After a busy day in town, a banker may devote his evening hours to clay modeling; a clerk from an office may busy himself with the construction of model airplanes. Other people may choose sewing, writing, painting, or photography as an avocation.

Often avocations change into vocations. Many successful fiction writers of today were teachers or newspaper reporters who formerly did such writing only in leisure time. Gardening, which many men have chosen as their avocation, has in some instances grown into a

full-time job and has produced sufficient income to permit the dropping of the vocation. Several sailors who spent their spare time painting sea pictures for their own enjoyment are now making their livings through their former avocations.

Often people do not realize the great amount of leisure time they have which might be spent in following an interesting avocation. There are few people who do not have at least one or two hours each day that could be devoted to it. It is not necessary to spend that much time in such a pursuit, but often it is desirable. An avocation can be pursued when, and if, unoccupied time lies heavily on one's hands.

If one attempted to choose a vocation, he would probably find that more than one vocation possessed a great attraction for him. He might decide to become a doctor, yet admit a great liking for photography. It would be well for him to consider the adoption of photography as a hobby, or avocation.

It is now known that rest is secured in other ways than by lying down and doing nothing. Rest is often nothing more than change. A workman who strains his muscles every day moving pianos may find that carving model locomotives will rest him even more than sleeping or than just listening to the radio. A garage mechanic may find playing the violin or the piano restful.

Some people waste a large amount of time. Many unprofitable hours are wasted listening to some types of radio programs, attending certain movies, or reading some kinds of books and magazines. If a person has chosen his avocation wisely, he is almost certain to lessen the amount of time he wastes in life.

Some of the avocations which men enjoy are:

Music	Hunting and fishing
Sports	Raising fish, pigeons
Sewing	Drawing and painting
Aviation	Constructing marionettes, toys
Scouting	Wood, soap, or stone carving
Gardening	Investigating the "family tree"
Dramatics	Working with charity organizations
Photography	Compiling the history of a locality
Keeping Bees	Collecting coins, stamps, antiques

The best time to choose an avocation is while one is young. If possible, it is best to choose an avocation that one can follow as he grows older. School clubs attempt to guide pupils into interesting hobbies. Some colleges attempt to do the same thing. The College of Engineering at the University of Cincinnati, for example, requires every student to devote part of each day to the development of a hobby. Educators at the college feel that by the time an engineer graduates he should have developed an interest and skill in some field removed from engineering because such an interest will help him to use his leisure hours happily and profitably.

### ACTIVITIES

1. Write a paragraph giving the reasons for and values derived from having an avocation. Be sure your paragraph has an interesting opening sentence and that the various items in it are arranged in sensible order.
2. If you have a hobby or avocation, tell the class about it. Mention what benefit you derive from it.

## SUMMARY ACTIVITIES

1. Explain how you can apply to reading outside this book what you have learned about the importance of getting "warmed up"; in which of your studies you find it most valuable.
2. Tell in which of your studies you particularly applied one or more rules for remembering.
3. Divide the following words into syllables:

vocation	stenographer	university
attraction	construction	collecting
photography	organizations	engineering
4. Without rereading any part of the section on use of reference materials, list five important things you remember from it.
5. Choose a topic from your history or science book. Form a committee and, following the advice given in this section, plan your work, locate your materials, and organize your committee report. Give it in class.

## SECTION VIII

### Special Reading Skills

*Writers often use illustrations of various kinds to make clear what they wish to express. Maps give locations, tables show "how much" and "how many," graphs show comparisons, diagrams picture details not seen in other illustrations, plans show layout and details of construction, cartoons stress ideas by exaggeration.*

*Special skill is needed for reading such illustrations. Suggestions for developing that skill are presented here.*

# THE TROPICS

Western Hemisphere



## Reading Maps

Two minutes spent in the intelligent reading of a map sometimes is more profitable than an hour spent in reading a detailed explanation in a textbook. For this reason the good student desires to learn to read the many kinds of maps he may meet in his studies and in his experience outside of school. The variety of maps presented here will give you practice in answering questions which you may face at some future time.

On most maps the top is north, the bottom is south, the right side is east, and the left side is west. Whenever this is not true, an arrow is printed at some convenient place on the map showing the directions.

Most maps are drawn to scale; that is, an inch on the map equals a certain number of actual miles. At the bottom, usually in the right-hand corner, appears a legend explaining the scale of the map. Sometimes the scale is one inch for ten miles, but this item varies with different maps.

Directly below the scale there usually appears an explanation of the kind of lines or symbols shown on the map. A particular type of line may represent a railroad. A star may refer to state capitals. A solid mass of black may mean a population density of 5,000 persons per square mile, while crisscrossed lines may be used to show land that contains only 3,000 persons per square mile. The explanation that appears in the legend depends upon the kind of map that is being read.

Different colors are often used to represent different





countries on the map. Sometimes, as in a map of the United States, different colors are used to represent the various states.

Countries that are owned by the same nation usually appear in the same color; therefore, on most maps Alaska and the United States are pictured in the same color.

The light lines that run from left to right across the map are latitude parallels. Thus  $60^{\circ}$  north latitude mean 60 degrees north latitude. All the latitude parallels north of the equator are called north latitude parallels. Those below the equator are called south latitude parallels.

The lines that run north and south are longitude meridians. Each line is numbered. Longitude is measured east and west of the  $0^{\circ}$  meridian that passes through Greenwich, England. The Americas, therefore, are in west longitude. Italy is in east longitude.

The torrid zone lies between the Tropic of Cancer and the Tropic of Capricorn. The Tropic of Cancer lies  $23\frac{1}{2}$  degrees north of the equator, and the Tropic of Capricorn lies  $23\frac{1}{2}$  degrees south of the equator. North of the Tropic of Cancer is the north temperate zone. South of the Tropic of Capricorn is the south temperate zone. Around the poles are the north and south frigid zones.

The names of the most important cities are usually printed in heavy type. The importance of a city usually may be estimated by the size of type used in its name.

Among the different kinds of maps frequently encountered in reading is the political map which shows boundaries of states, countries, or other political divisions. Such a map may be shaded or colored to show

the various parts, or the divisions may be made by distinctive lines. The map of North America shown on page 430 is a political map.

Another type is the story map. A story map usually gives a continuous picture from one date to another. Often actual pictures help to tell the story. The story map presented on page 434 shows the history of the growth of the United States from a few states on the Atlantic seaboard to a great nation extending to the Pacific Ocean.

If one wishes to find density of population, a map showing that particular feature of a place may be consulted. Shadings or colors are used to indicate the number of people living in different areas. On page 436 a map of this kind will be found.

Distribution maps are used to show such information as where certain products are raised, minerals are obtained, or industries carried on. The dot map on page 437 is a distribution map showing world wheat acreage.

Picture maps showing historical growth, location of industries, types of people, or even such things as types of recreation are helpful as reference and are usually enjoyable to read.

### ACTIVITIES

1. Read the political map of North America on page 430. On your paper write the letters from *a* to *k* inclusive. After each write the word or phrase that completes the statement. If any statement puzzles you, reread the map legend. If you are still puzzled, reread the directions for reading maps given on page 429.

- a. A section which belongs to the United States is (1) Alaska, (2) Mexico, (3) Honduras, (4) Newfoundland.
- b. All of the United States lies below the line marked (1)  $30^{\circ}$ , (2)  $40^{\circ}$ , (3)  $50^{\circ}$ , (4)  $20^{\circ}$  north latitude.
- c. New York has a latitude of (1)  $30^{\circ}$ , (2)  $40^{\circ}$ , (3)  $50^{\circ}$ , (4)  $60^{\circ}$  north.
- d. Of the four Central American countries named here, the two shown by the map to be larger than the others are (1) Nicaragua, (2) Panama, (3) Salvador, (4) Honduras.
- e. To go from Labrador to Chicago one should travel (1) north, (2) south, (3) northeast, (4) southwest.
- f. North America is in (1) north latitude, (2) south latitude, (3) west latitude, (4) east latitude.
- g. The direction traveled going to Cuba from Mexico must be (1) north, (2) south, (3) east, (4) west.
- h. South America is joined to North America by the country of (1) Mexico, (2) Panama, (3) Guatemala, (4) United States.
- i. Each inch on this map represents a distance of (1) 1,600 miles, (2) 800 miles, (3) 400 miles, (4) 100 miles.
- j. The capital city of Mexico is (1) on the coast of the Gulf of Mexico, (2) on the Pacific coast, (3) in the interior of the country, (4) on the northern border.
- k. The great circle which crosses Mexico is (1) the Arctic Circle, (2) Equator, (3) Capricorn, (4) Cancer.



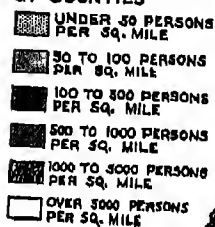
2. Read the story map carefully; then complete these statements:
  - a. The United States secured the Oregon country in 1846 from (1) Russia, (2) Mexico, (3) England, (4) France.
  - b. A state that entered the Union in 1819 is (1) Alabama, (2) Illinois, (3) South Carolina, (4) Wyoming.
  - c. In 1825 most of what is now California belonged to (1) The United States, (2) Mexico, (3) England, (4) Russia.

- d. The last state in the Oregon country to enter the Union was (1) Oregon, (2) Idaho, (3) Washington, (4) California.
  - e. One of the original thirteen states that entered the Union in the year 1788 was (1) Kentucky, (2) Alabama, (3) Ohio, (4) Massachusetts.
  - f. Of the following states the last to be taken into the United States was (1) Kentucky, (2) Indiana, (3) Illinois, (4) Missouri.
  - g. Louisiana was purchased in 1803 from Napoleon during the presidency of (1) Washington, (2) Jefferson, (3) Adams, (4) Monroe.
  - h. The only territory that was annexed by the United States was (1) Texas, (2) Florida, (3) Louisiana, (4) Oregon.
  - i. The Louisiana Territory later formed (1) nine, (2) eleven, (3) thirteen, (4) ten states.
  - j. Although the United States bought Florida from Spain in 1819, Florida did not become a state until (1) 1845, (2) 1788, (3) 1860, (4) 1821.
3. The population map of New Jersey is divided into counties. Pay particular attention to the legend on the side. Read the map to complete these statements:
- a. The capital of the state is (1) Philadelphia, (2) New York, (3) Trenton, (4) Camden.
  - b. The number of counties in New Jersey that contain an average of 5,000 people per square mile is (1) one, (2) two, (3) three, (4) four.
  - c. The counties with an average population of less than fifty persons per square mile are (1) Passaic, (2) Somerset, (3) Sussex, (4) Ocean.

# Population Map of New Jersey

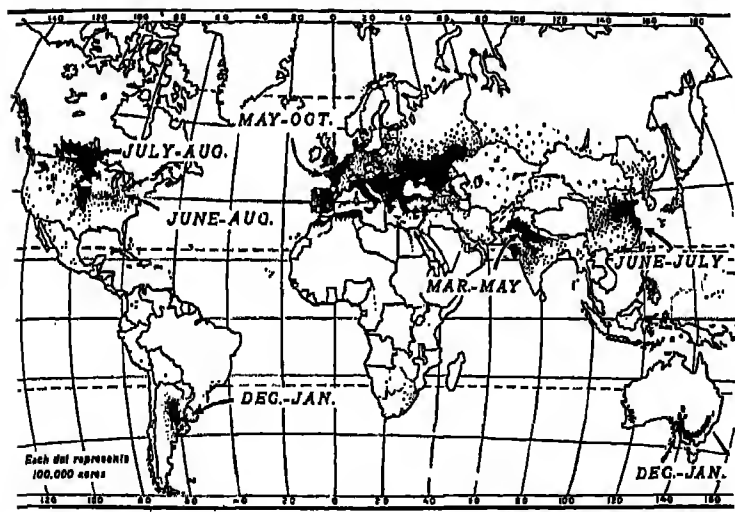
## Legend

### DENSITY OF POPULATION BY COUNTIES



- d. The most densely populated county in the southern half of New Jersey is (1) Camden, (2) Burlington, (3) Cape May, (4) Ocean.
- e. New Jersey is divided into (1) fifteen, (2) eighteen, (3) twenty-six, (4) twenty-one counties.
- f. The number of counties in New Jersey that contain between 1,000 and 5,000 persons per square mile is (1) one, (2) two, (3) three, (4) four.

- g. On the east, New Jersey borders on the (1) Delaware River, (2) Delaware Bay, (3) Atlantic Ocean, (4) Long Island.
- h. The most thickly settled portion of New Jersey is around the city of (1) Trenton, (2) Camden, (3) New York, (4) Atlantic City.
- i. A county that has an average population of 1,000 to 5,000 persons per square mile is (1) Sussex, (2) Mercer, (3) Atlantic, (4) Passaic.
- j. The most sparsely populated county in the northern half of New Jersey is (1) Hunterdon, (2) Essex, (3) Sussex, (4) Bergen.



WORLD WHEAT ACREAGE WITH IMPORTANT HARVEST PERIODS  
AVERAGE 1930-31-1934-35

4. Read carefully the dot map of wheat acreage. Write the letters from *a* to *h* inclusive. After each letter write the word or phrase which completes the statement.

- a. Wheat is grown chiefly in the (1) torrid zones, (2) frigid zones, (3) temperate zones.
- b. The only part of South America that grows wheat is the (1) southern part, (2) central part, (3) northern part.
- c. The continent that grows the most wheat is (1) North America, (2) Europe, (3) Asia.
- d. South American wheat is harvested in (1) our winter, (2) our autumn, (3) our summer.
- e. There is no wheat grown above the (1) Equator, (2) Tropic of Cancer, (3) Arctic Circle.
- f. The smallest continent producing wheat is (1) Europe, (2) South America, (3) Australia.
- g. Most of the wheat produced in North America is grown in the (1) southern part, (2) northern part, (3) central part.
- h. The two greatest wheat-producing countries of Asia are (1) China and Russia, (2) India and China, (3) India and Russia.
5. Keep a diary for a week, listing for each school subject and for reading not connected with school work, the types of maps, charts, graphs, tables, cartoons, and illustrations which are contained in the material read.

*Check your answers to 1, 2, 3 and 4 with those on page 551*



## Roads and Their Maps

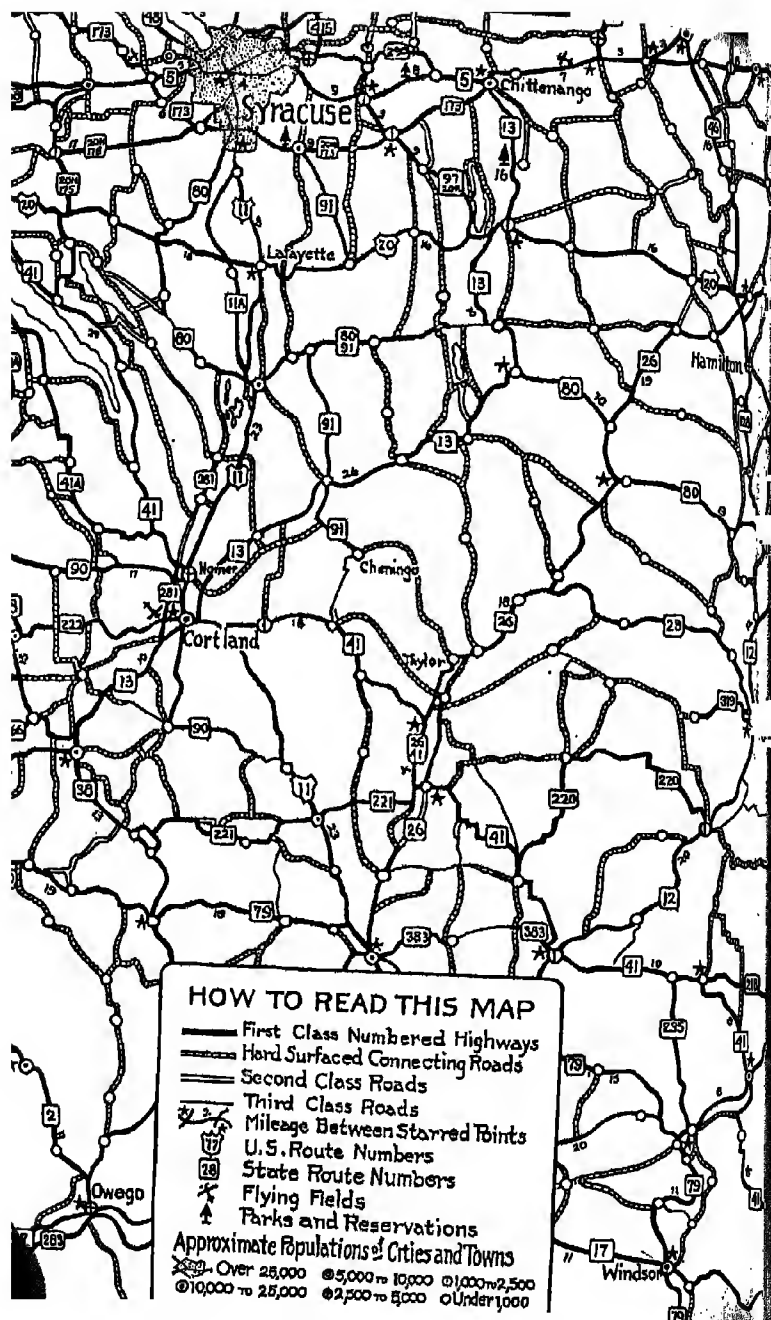
As you read, be sure to study the road map to get from it all the information possible.

The roads upon which Americans of fifty years ago traveled were much different from the roads of today. Then the roads usually were narrow and contained holes and ruts that would prove disastrous for modern fast automobiles. On rainy days the holes became deep puddles; frequently passengers had to alight to help push the carriage through axle-deep mud.

Today the uneven dirt road has largely given way to concrete or other hard-surfaced highways. Millions of dollars have been spent to crisscross our country with scores of well-kept roads over which drivers can travel rapidly and comfortably. Thousands of miles of fine, paved highways and many more thousands of miles of good gravel and dirt roads connect our cities. Highway departments in every state look after the roads and keep them in good condition.

One of the duties of the highway department is to mark the roads so that travelers can follow them without getting lost. Signs are placed at every important crossroad, naming the cities, showing in which directions they lie, and stating the distance to each.

The highway department of the state is only one agency that prepares maps of the roads in a state. Other agencies are the gasoline companies, the chambers of commerce, and the automobile associations.



Highway maps are surprisingly complete and accurate. They show the different roads, the materials of which they are made, and the distances between towns. They show bridges and tell whether or not tolls are collected from travelers crossing them. They show where roads are under construction and where detours have to be made. They show the numbers by which each main highway is labeled.

Maps prepared by state highway departments are free, as are also those prepared by the large gasoline companies. The maps issued by the American Automobile Association, or the A.A.A. as it is called, are free to members, but others must pay a small charge.

On page 440 is a section of a road map. Not all road maps are like this one, but if one such map can be read, others will be easy to read, also.

The key at the bottom shows how to read the map. The roads shown by the heavy black lines are the main highways, each of which has a number. These are first-class, paved highways, over which one can drive in almost any kind of weather. Roads represented by two parallel lines with crossbars are good, hard-surfaced roads used to connect the main highways at various points. These roads are usually safe in wet weather. The second-class roads represented by two parallel lines are likely to be difficult for travel in stormy weather. Third-class roads, represented by a single thin line, are poor roads in any kind of weather.

Each road on the map is numbered along its route. National, or U. S., highways are numbered, with the number placed in a shield. The numbers of the state highways shown on this map are in the rectangles with

rounded corners. Flying fields are indicated by pictures of airplanes. Parks and reservations are represented by trees, each with a number beside it. The number below the tree refers to the back of the map, which is not shown here. On the back of the map, parks and reservations are named. Number 16, for example, is Chittenango State Park.

Roads frequently are closed for repairs and construction work. Broken lines on the map indicate this fact. Detours must be made until the road is opened again.

A person desiring to make a long trip by automobile can secure expert help in outlining the best roads for travel. The automobile associations and the larger gasoline companies will send, upon request, full information regarding the best roads to follow between any two cities. If told the date on which the trip is to be started, a route will be drawn up so that all possible detours may be avoided. People who make such maps secure almost daily information from all parts of the country concerning the roads that are under construction.

Many maps give the approximate population of cities and towns through which the roads pass. Symbols are used for this information. An irregular patch of dots represents a city of over 25,000 population. A circle with a large black spot (⊙) inside indicates a city with a population of 10,000 to 25,000. Two circles, one within the other (⊖), reveal that the population is between 5,000 and 10,000. A circle split by an upright line (⊕) represents a town with a population of 2,500 to 5,000. A small town of 1,000 to 2,500 inhabitants is shown by a circle containing a small dot (⊙). Towns of less than 1,000 are indicated by empty circles (○).

Distances between cities can be found in two ways: either from the scale in the key, or from the numbers beside the roads. The numbers indicate the distance in miles between starred points.

### ACTIVITY

To show that you can read a road map correctly, use the map on page 440 in answering these questions:

1. How many miles of paved road are there on the shortest road between Cortland and Lafayette?
2. What kind of road would you have to travel on for most of the distance between Cheningo and Taylor on State highway 91?
3. How many miles would you travel in going from the center of Syracuse to Cortland on U. S. highway 11?
4. What is the approximate population of the following cities and towns?

Syracuse

Owego

Cortland

Windsor

Groton

Hamilton

5. Between what two towns do U. S. highway 11 and State highway 41 follow the same road?
6. Is highway 20 a state or a U.S. highway?

*Check your answers with those on page 551*

## Maps Tell Stories Quickly

An important part of a map is the title, for it tells the type of information the map contains. The next important part is the legend, usually printed in a block at the bottom. The legend reveals the meaning of the different colors, lines, or dots used in the map. Usually the legend includes the number of miles represented by each inch on the map.

There are numerous types of maps, and new kinds are being used in books, magazines, and newspapers, because writers find that people like information presented so that it can be read quickly.

In this article five maps are reproduced. With each map is a series of questions. All the information you need for answering the questions is found on the map.

Obtain information from the map on page 445. and complete the following statements:

1. The materials used in the manufacture of rubber goods come from (a) one section of the country, (b) all sections of the country, (c) only the eastern section of the country.
2. For the location of a rubber goods factory one would probably choose (a) Ohio, (b) Oregon, (c) Texas, (d) Maine.
3. Five of the materials used in the manufacture of rubber goods are (a) mica, (b) glue, (c) wood pulp, (d) clay, (e) radium, (f) wool, (g) talc, (h) sulphur.



4. One of the products of trees that is used in the manufacture of rubber goods is (a) clay, (b) rosin, (c) mica, (d) lime.
5. One product used in the manufacture of rubber goods and found both on the eastern coast and the western coast is (a) glue, (b) talc, (c) tripoli, (d) clay.
6. A product that is found both in the southern states and the northern states is (a) sulphur, (b) zinc, (c) lime, (d) mica.
7. From the eastern states the manufacture of rubber goods requires (a) chemicals, (b) gilsonite, (c) aniline oil, (d) asbestos fibre.
8. From the northern states the manufacture of rubber goods requires (a) clay, (b) carbon bisulphide, (c) rosin, (d) chemicals.
9. From the western states the manufacture of rubber goods requires (a) rosin, (b) gilsonite, (c) talc, (d) zinc.

10. From the southern states the manufacture of rubber goods requires (a) refined sulphur, (b) lime, (c) glue, (d) asbestine.



Complete the following statements:

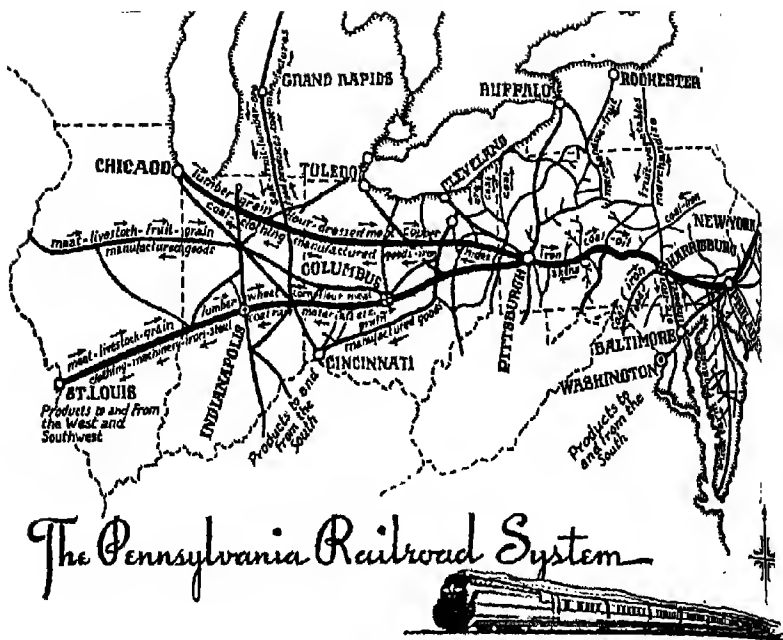
1. In this map the legend is in the (a) top left-hand corner, (b) top right-hand corner, (c) bottom left-hand corner, (d) bottom right-hand corner.
2. Most of Arabia has (a) extreme summers and mild winters, (b) cool summers and extreme winters, (c) mild summers and extreme winters, (d) extreme summers and extreme winters.



3. To find a climate that is always hot, one should visit (a) U.S.S.R., (b) Turkey, (c) Northern India, (d) the islands south of India.
4. Above the Arctic Circle lies the northern part of (a) U.S.S.R., (b) India, (c) Arabia, (d) Japan.
5. One of the countries which contains land having cool summers and extreme winters is (a) Arabia, (b) Turkey, (c) China, (d) Borneo.
6. At about  $8^{\circ}$  north latitude and  $81^{\circ}$  east longitude lies the island of (a) Japan, (b) Ceylon, (c) Java, (d) Taiwan.
7. The latitude and longitude of the island of Java, in the Dutch East Indies, is approximately (a)  $7^{\circ}$  south latitude,  $110^{\circ}$  east longitude, (b)  $7^{\circ}$  north latitude,  $108^{\circ}$  east longitude, (c)  $100^{\circ}$  south latitude,  $40^{\circ}$  west longitude, (d)  $50^{\circ}$  north latitude,  $40^{\circ}$  west longitude.

Read the map on page 448 and answer the following:

1. What six large cities are connected with Philadelphia and New York by the Pennsylvania Railroad?
2. What is the chief product sent to New York from Cincinnati and what does Cincinnati secure in return?
3. At what city do the two main western branches of the Pennsylvania Railroad meet?
4. In what direction do manufactured goods chiefly travel?
5. What four articles are sent east from Grand Rapids?
6. What two cities receive products from the South?
7. What are the names of four cities at which the Pennsylvania Railroad System connects with the Great Lakes?



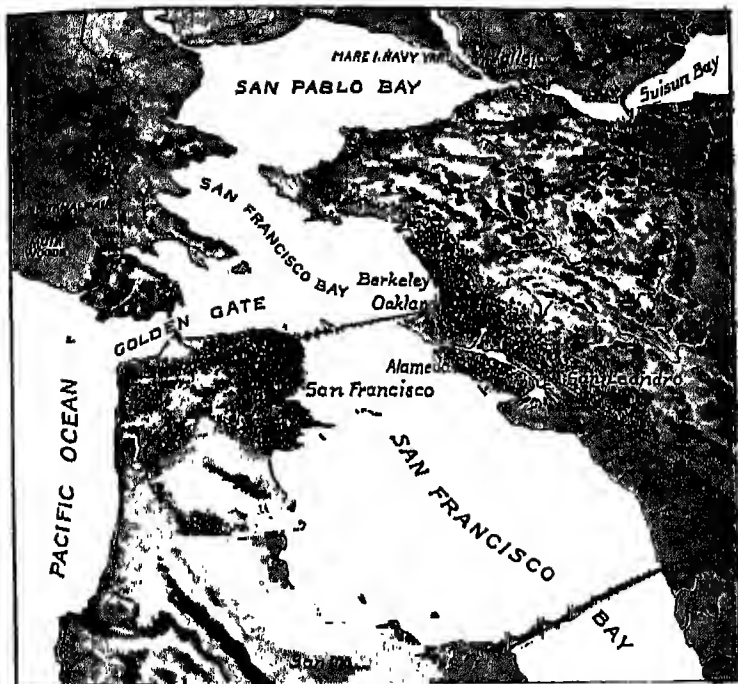
## The Pennsylvania Railroad System

8. What is the eastern terminal of the Pennsylvania Railroad System?
9. Is Cincinnati on the main line of the Pennsylvania Railroad?
10. Does the main line of the Pennsylvania Railroad pass through Harrisburg, Pennsylvania?

Read the map on page 449 and answer the following:

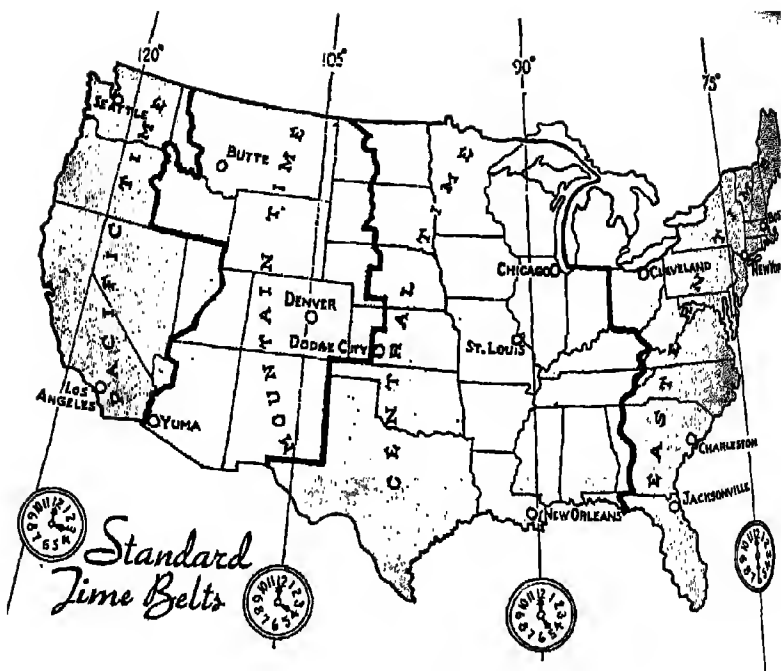
1. Is Berkeley east or north of Alameda?
2. How many bridges cross San Francisco Bay?
3. Through what channel must a boat pass when entering San Francisco Bay from the Pacific Ocean?
4. Near what city is the Mare Island Navy Yard located?
5. What is the name of a forest that is shown on the map?
6. What is the name of a mountain that is shown on the map?

7. Which two large cities seem to run together?
8. What is the southernmost city shown on the map?



Read the map on page 450 and answer the following:

1. How many different time belts are there in the United States?
2. Is the time in Oregon earlier or later than the time in New York?
3. At 3:00 P. M. in St. Louis, what time is it in Seattle? Butte? New Orleans? Jacksonville? Cleveland? Boston? Los Angeles?
4. Which one of each of the following pairs of cities has the earlier time?



Yuma	—	Jacksonville
Denver	—	Los Angeles
Chicago	—	Cleveland
Dodge City	—	Charleston
New Orleans	—	New York

5. At what time would a football game starting in California at 2:00 P. M. be broadcast by direct wire in New York?

*Check your answers with those on page 551*

## The Atlas

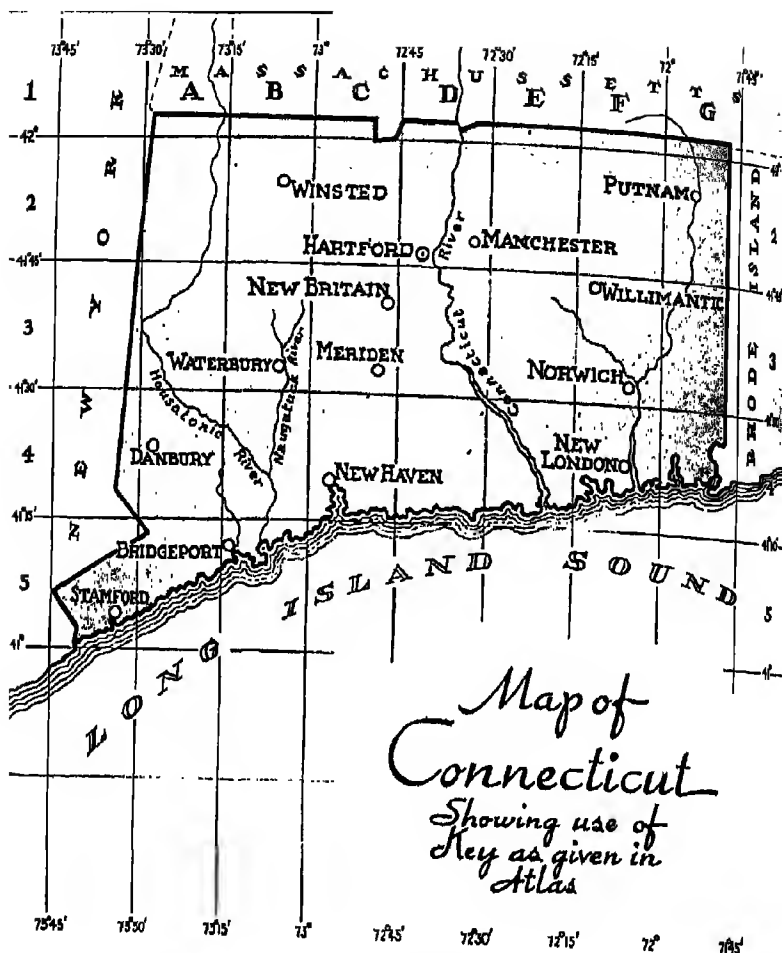
When reading and studying, one frequently sees the names of cities and other places of which he has never heard. Sometimes such places are in foreign countries, while at other times they are in the United States. To help locate such places quickly, atlases are printed. An atlas not only contains maps of all the countries of the world, but it also offers a great amount of geographical information.

The maps in an atlas are very carefully drawn. They show oceans, lakes, canals, railroads, rivers, islands, cities, and towns. Some maps show the altitude of different parts of the country. Other maps show the amount of rainfall, the location of oil wells, the size of crops, and the importance of various products.

The index in an atlas is important because it is a necessary aid in finding information quickly. If, for example, one wishes to find the location of New Haven, Connecticut, the index may give a reference like this:

New Haven, Connecticut 15—4 C

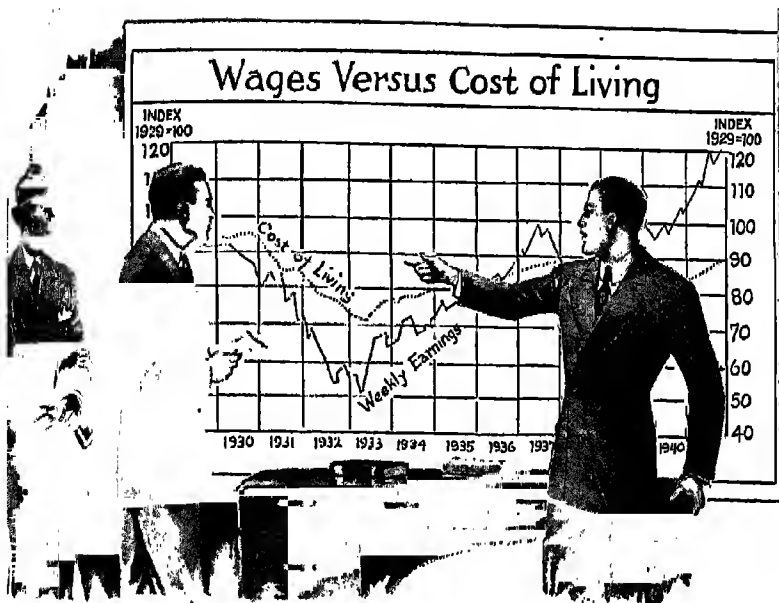
The number 15 refers to the page on which a map of Connecticut may be found. On the map may be lines that intersect to form a series of regular squares. At the top of the vertical rows of squares, letters may be seen. Numbers might identify the horizontal rows. The place where New Haven is located, 4C, would be found by moving down column C to the fourth square. The diagram on page 452 shows the sections into which a map may be divided and the location of 4C.



### ACTIVITY

Number your paper from 1 to 5. On the map of Connecticut find the cities listed below. Determine what number and letter would probably be placed beside them in an atlas index.

- |               |               |
|---------------|---------------|
| 1. New London | 4. Putnam     |
| 2. Hartford   | 5. Bridgeport |
| 3. Danbury    |               |



## How to Read Graphs

Probably the reason for the increasing popularity of graphs is the fact that people are usually in a hurry, and they can get general ideas from a graph in much less time than they can from reading several pages of explanation.

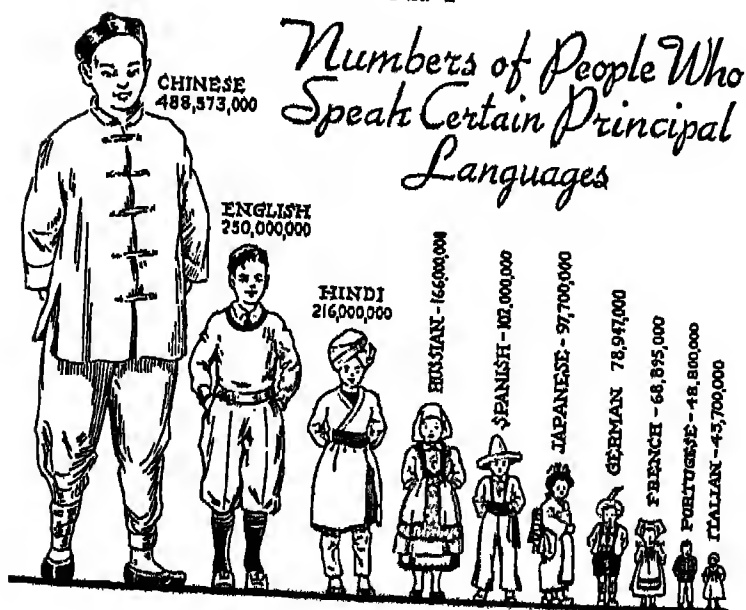
A graph is a drawing that shows relationship between two or more items. It is in some respects similar to a table; in fact, most relationships can be shown either by graphs or by tables. In a table, relationships are shown by numbers while in a graph they are shown in terms of space, i.e., size, length, height, and position. In a graph, relationships can be seen readily because of the differences in size, differences in length of line, or because of other comparative features.

The difference between a table and one type of graph can be understood by examining the two examples that follow. Both examples give the same information. The first example is a table; the second is a type of graph.

TABLE  
Tabulation of Those Who Speak Certain Principal Languages

Language	Number Who Speak It
Chinese .....	488,573,000
English .....	250,000,000
Hindu .....	216,000,000
Russian .....	166,000,000
Spanish .....	102,700,000
Japanese .....	97,700,000
German .....	78,947,000
French .....	68,895,000
Portugese .....	48,800,000
Italian .....	43,700,000

GRAPH I





Which example gave you the best picture in one glance of the relative numbers of people who speak the different languages mentioned?

Graphs are used for a number of different kinds of explanations. They are used by weather forecasters, sports writers, advertising writers, business men, engineers, and government agents. They are found in almost every magazine and newspaper and are nearly always seen on the financial pages of the latter. Students see them frequently in textbooks, especially in the fields of social studies, science, and mathematics.

Among the different kinds of graphs are the picture, bar, circle, and line. Each type has its advantages in presenting certain kinds of information. Students should learn how to read and interpret each type because they are likely to meet such graphs frequently.

### PICTURE GRAPHS

Graph I is a picture graph. It compares the numbers of people who speak various important languages and shows, by means of pictures, the differences in their sizes. In studying the graph, the reader should carefully examine the title in order to understand what is shown by the comparisons presented in the graph. Second, the comparisons presented should be noted. In Graph I, for example, the numbers being compared are represented by different-sized figures.

Third, the relationships shown by the items pictured should be studied. In Graph I it is easy to note that, of the countries mentioned, the Chinese language is spoken by the largest number of people, and the Italian language by the smallest number. It is easy to note, also,

that of the ten languages mentioned in the graph, the English language ranks second in the number of people who speak it.

Although a picture graph gives a general impression, it often gives an inaccurate one. According to the table, the number of people who speak Chinese is 488,573,000, while only 250,000,000 speak English—a figure slightly more than one-half the Chinese figure. The picture representing the number of people who speak Chinese, however, gives the impression that Chinese-speaking people are many times as numerous as English-speaking people. This impression is created by the fact that the figure representing the Chinese-speaking people, although it is less than twice as tall as the figure representing the English-speaking people, is also broader and heavier. In actual weight the first figure seems at least four times as heavy as the second figure.

A more accurate type of picture graph is the kind that shows comparisons by the number of items rather than by the size of the items. Graph II, which compares the size of enrollment in federally aided schools or classes

## GRAPH II

### *Enrollment in Federally Aided Schools or Classes by Years*

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1920		265,058
1930		981,882
1939		2,085,427

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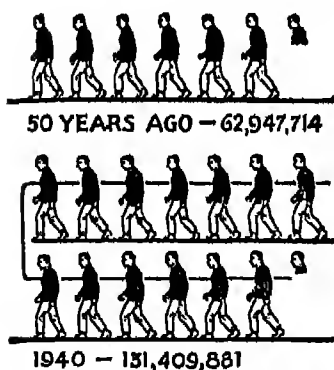
EACH SYMBOL REPRESENTS 100,000 PUPILS ENROLLED

in three typical years, is of this latter type. Each picture of a pupil at a desk represents 100,000 pupils enrolled, and each picture is of the same size.

After having read the graph and having grasped its general meaning, the skilled reader should try to interpret it. In other words, he should try to explain to himself why the difference exists. Usually the article that accompanies the graph will interpret the graph for him.

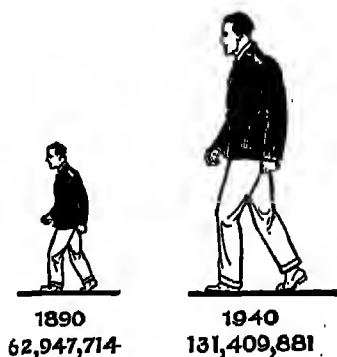
Decide which of the following two picture graphs, both illustrating the same comparison, is the more accurate. After making your decision, answer the questions that follow them.

GRAPH III



*Growth of the Population  
of the United States*

GRAPH IV



*Growth of the Population  
of the United States*

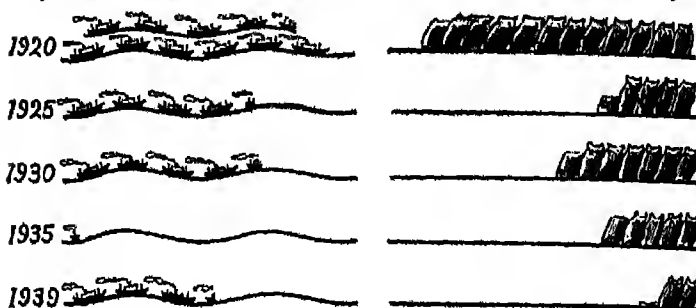
Which of the two graphs presents the more accurate comparison? Why?

## GRAPH V

*Wheat: United States Exports and Imports*

*United States Exports*  
(EACH BOAT CARRIES 20 MILLION BUSHELS)

*United States Imports*  
(EACH SACK CONTAINS 3 MILLION BUSHELS)



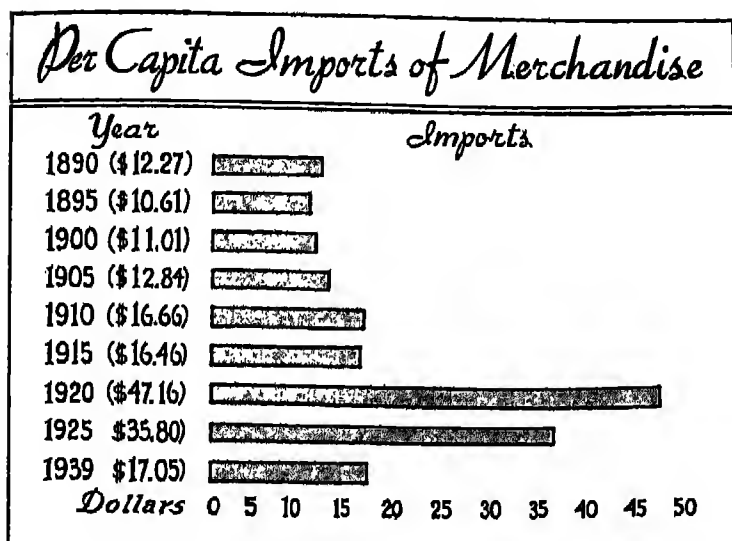
Answer the following questions about Graph V:

1. Where is the title of this picture graph placed?
2. How many bushels of wheat exported does each boat represent?
3. How many bushels of wheat imported to America does each sack represent?
4. In what year did the United States import the least amount of wheat?
5. In which year did the United States export the greatest quantity of wheat?
6. In which year did the United States export a little more than 60 million bushels of wheat?
7. In what year did the United States import more wheat than it exported?
8. In which year did the United States import about 20,000,000 bushels of wheat?
9. How much did the United States' exports of wheat drop between 1920 and 1939?

## BAR GRAPHS

Bar graphs, like picture graphs, show comparisons and relationships. Instead of pictures, however, accurately drawn heavy lines or bars are used. Graph VI, reproduced below, is a bar graph.

GRAPH VI



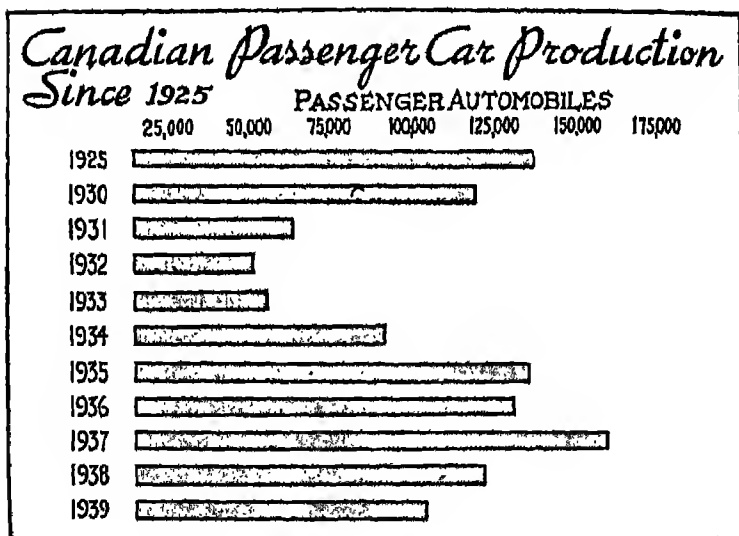
In reading Graph VI and other bar graphs, the explanations listed here will help you.

1. The title of the graph, which appears either below or above the graph, will tell what the graph is about.

2. Two sides of the bar graph must be carefully read. The left side usually contains the names of the series of articles being studied. Along the bottom, or possibly the top, are arranged numbers, increasing in size, that indicate quantities or amounts.

3. The length of the bars indicates quantity or amount. In Graph VI the bar representing the year 1890 stops slightly less than midway between the numbers 10 and 15, which are on the bottom of the graph, thus showing that about \$12.30 is spent on imports by each person in the United States. The shortest bar represents the year 1895, when only \$10.61 per individual was spent for imports. The exact amounts spent per capita are written in the graph beside the years.

GRAPH VII

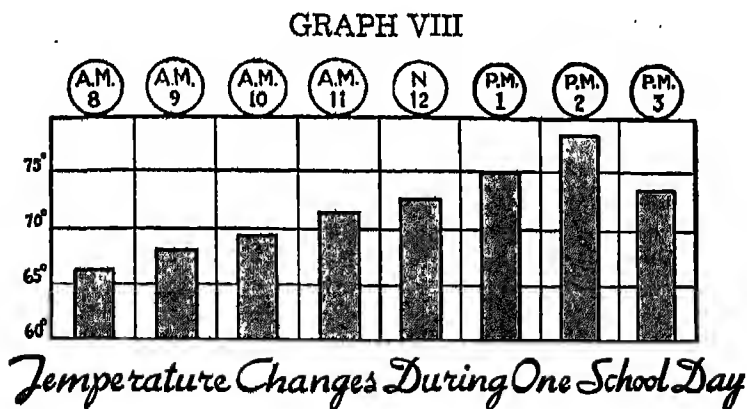


In Graph VII, since the amounts are not stated, they have to be estimated. According to this graph, Canada manufactured in 1939 slightly less than 110,000 passenger automobiles. The exact figure may be 108,000 or 108,350, or even 108,500. The purpose of the graph

is served if the reader realizes that Canada's passenger automobile production in 1925 amounted to about 135,000 cars, decreased to a low figure of 40,000 in 1932, increased to a peak production of 153,000 in 1937, and is now decreasing again.

There should be an interpretation or explanation of each bar graph. Usually the interpretation is made by the author and accompanies the graph.

In Graph VII the bars run horizontally from left to right. In some bar graphs, however, the bars run vertically, from bottom to top. Graph VIII, which shows the temperature changes during a school day, is one of the latter type.

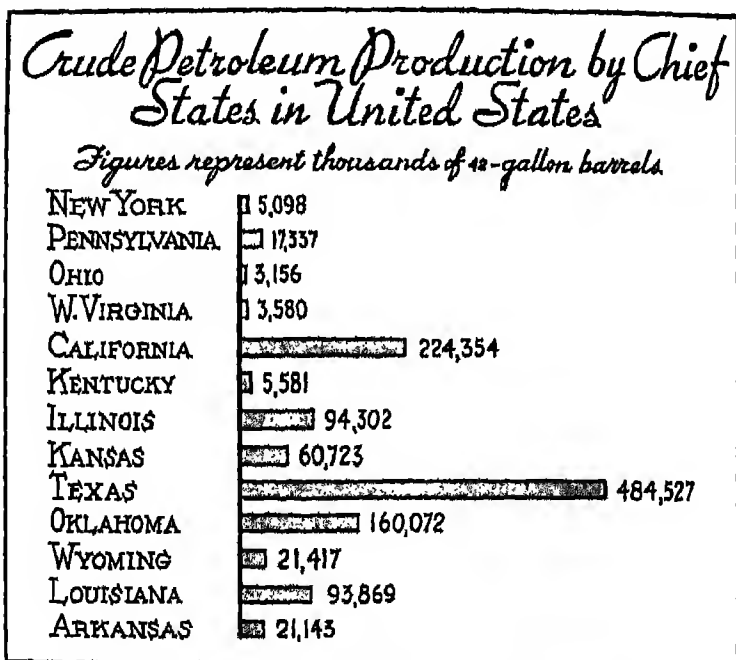


After reading Graph VIII, answer these questions:

1. At what hour did the temperature rise to its highest point?
2. At what hour was the temperature at its lowest point?

3. At what hour did the students begin to take the temperature readings?
4. At what hour did the temperature rise to almost 72 degrees?
5. Where is the title of this graph?
6. What was the approximate temperature when school was dismissed?

GRAPH IX

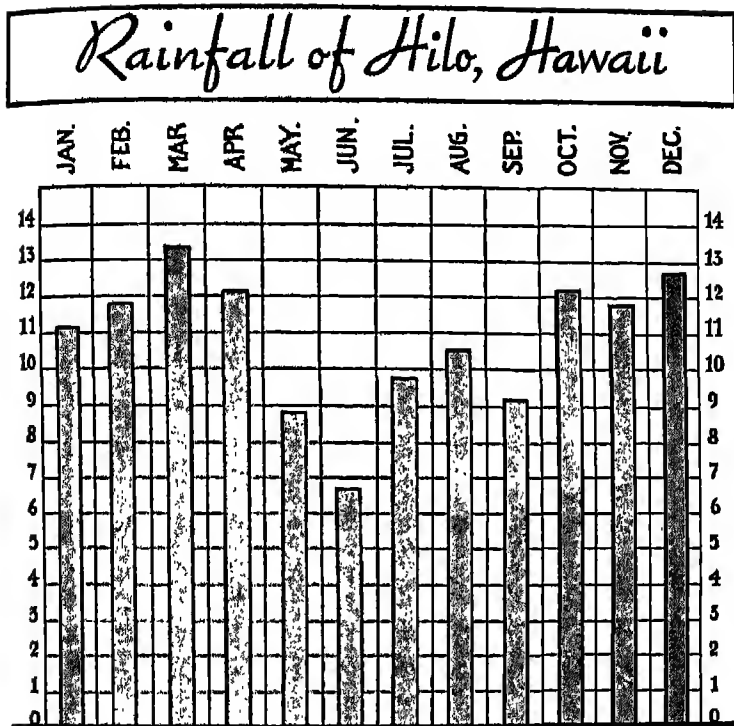


Answer these questions after reading Graphs IX and X:

1. Which of these two graphs is a vertical bar graph?
2. Which of these two graphs is a horizontal bar graph?



GRAPH X

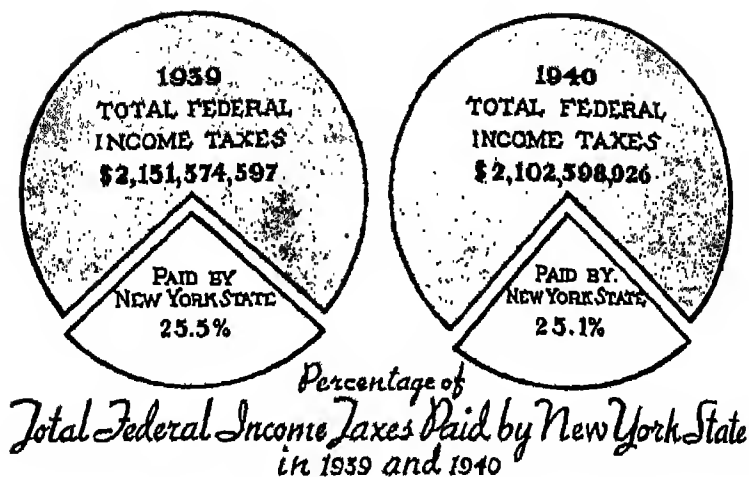


3. Which of the two graphs gives the more accurate reading?
4. Where is the title placed in Graph IX?

### CIRCLE GRAPHS

Circle graphs are sometimes called "pie" graphs because they resemble pies divided into parts. They are used to compare the parts of a whole. The parts resemble wedges of pie cut into various sizes. Graph XI is a circle, or "pie," graph.

GRAPH XI



The following directions will aid in the reading of a circle graph:

1. Read the title to discover what the graph is about. In Graph XI the two parts picture the percentage of New York State's contribution to the Federal income tax total in 1939 and 1940.

2. Find out what each part of the circle represents. In Graph XI the whole circle represents the total Federal income taxes, the smaller portion represents the percentage of New York State's contribution, and the larger portion the amount of the Federal income taxes paid by the rest of the country.

3. Make a comparison of the amounts represented by each space. In the first circle, representing 1939, New York State's contribution is 25.5% of the \$2,151,374,597 collected in Federal income taxes by the United States Government. In the second circle, New York's

share shrank slightly to 25.1% of the total income tax collection of \$2,102,598,926. The total income tax collection, you will notice, shrank almost \$49,000,000.

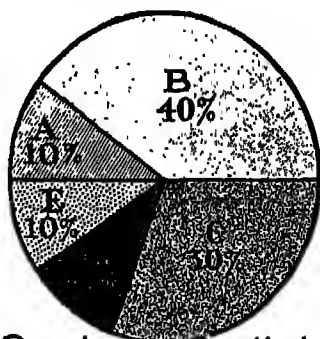
4. With the help of the article that accompanies the graph, interpret or explain the results.

In Graph XI two circles are used in the same graph because of the fact that the total Federal income collection was different in the two periods of time being compared. Usually a circle graph contains only one circle, as in Graph XII, which shows how a class used a table containing their test marks as a basis for a circle graph.

Table

Marks	Number of pupils	Per Cent
A	4	10
B	16	40
C	12	30
D	4	10
E	4	10

GRAPH XII

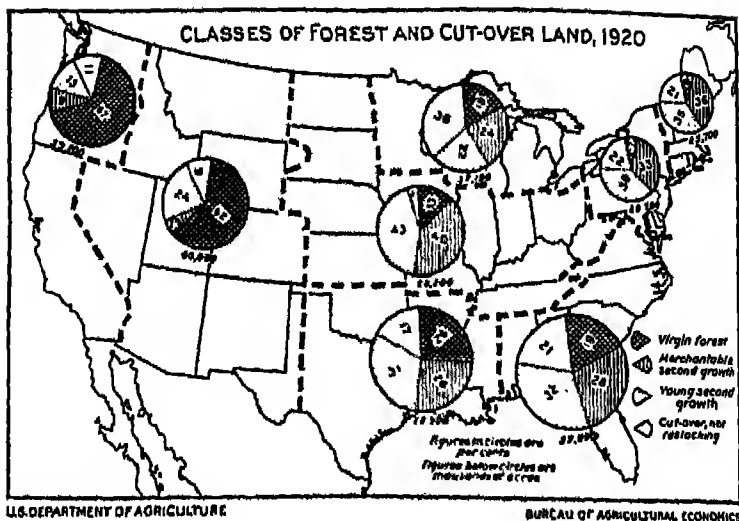


*Distribution of Test Marks  
in a Class of 40 Pupils*

Study Graph XIII; then answer these questions:

1. How many acres are represented in the circle graph located in Oregon?
2. How many forest areas are represented on the map?
3. What per cent of the forest area around the Great

## GRAPH XIII



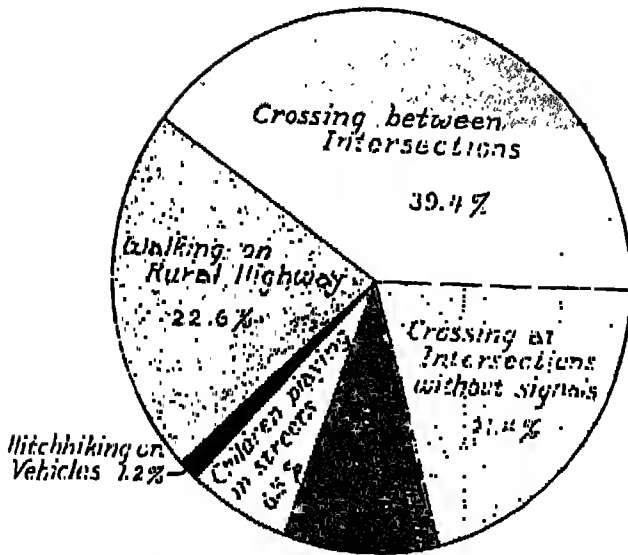
Lakes is covered (a) with virgin forest? (b) with cut-over lands, not restored? (c) young second growth? (d) merchantable second growth?

4. Where is the largest area of forest land located?
5. To what do the figures in the circles refer?
6. Where is the title of this graph located?
7. Where is the key to the graph located?
8. Is it possible, from the graph, to find the number of acres containing virgin forest in the Oregon field?

Study Graph XIV. Of the questions which follow check those that can be answered from this graph.

1. What was the total number of persons killed?
2. What two types of accidents caused the largest number of deaths?
3. Were all the accidents due to the carelessness of drivers?

GRAPH XIV



*Causes of 10,030 Deaths Due to Collisions of Automobiles with Pedestrians in 1940*

4. What was the actual number of deaths resulting from children playing in streets?
5. What percentage of all deaths was caused by pedestrians coming from behind parked cars?
6. Which type of accident caused the smallest number of deaths?
7. What type of accident caused the largest number of deaths?

#### LINE GRAPHS

A fourth type of graph is the line graph, which is often used to make comparisons over a period of time.

Sometimes a solid line is used to show comparisons; sometimes a dotted or broken line is used. When several items are being compared with themselves and with each other, a number of lines of different kinds are used on the same graph.

Graph XV is a line graph, built to illustrate the table which shows the percentages of persons killed and of persons injured in automobile accidents at various periods of the day during 1940.

The steps to be followed in reading a line graph are similar to those used in reading other kinds of graphs. *First*, read the title to find out what the graph is about. Graph XV compares the percentages of deaths and injuries during various periods of the day in 1940. *Second*, notice whether the lines tend to rise or descend. The lines in Graph XV fall sharply during the morning hours of 6 to 9 A. M.; then they rise to reach their peaks in the early evening, after which they fall rather sharply.

*Third*, study the time units on the horizontal line. The units in this case are on the top horizontal line, although in some graphs they are found on a line at the bottom. Each space in this graph represents three hours, except for the first space which represents six hours. The total period of time shown in the graph represents one day.

*Fourth*, connect the time units with the percentage units on the vertical axis. Each step up on the scale represents two per cent. Between the hours of 12 to 6 A. M., for example, the percentage of deaths was approximately 18.4, and the injuries about 12.9.

Look at the graph and answer the following questions:

1. In what period of time does the largest number of injuries due to automobile accidents occur?

2. What is the safest period of time in which to travel?
3. What percentage of deaths due to automobile accidents occur between 12 and 3 P. M.?

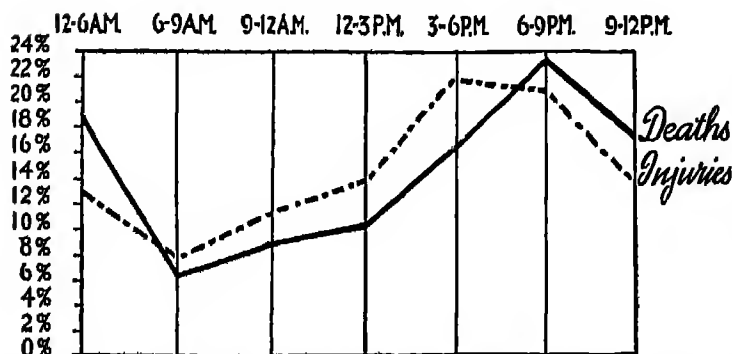
*Check your answers to graph questions with those on page 550*

TABLE

Deaths and Injuries Caused by Automobile Accidents  
at Various Periods of the Day (1940)

Hours	Per Cent of Deaths	Per Cent of Injuries
12 to 6 A. M.	18.4	12.9
6 to 9 A. M.	6.3	7.4
9 to 12 A. M.	8.8	11.0
12 to 3 P. M.	10.0	13.5
3 to 6 P. M.	16.0	21.6
6 to 9 P. M.	23.9	20.5
9 to 12 P. M.	16.6	13.1
Total	100.0	100.0

GRAPH XV



*Deaths and Injuries Caused by Automobile  
Accidents at Various Periods of the Day (1940)*

## Reading Tables

Reading tables is a difficult kind of reading. It is important that you learn to do it well because you frequently find tables in your history, science, and mathematics textbooks, and in your magazine reading. Often it is necessary to read many pages of content in order to learn what a table that is only half a page in length would give you. Tables which give much information in a small space should be read carefully, not skimmed. The reader will find it profitable to study such tables.

TABLE I

### Food Value of Fresh Fruits

Fruit	Water %	Protein %	Fat %	Sugar %	Fuel Value Calories
Apples .....	84.1	0.3	0.4	11.1	290
Bananas .....	74.8	1.2	0.2	19.2	445
Blackberries ....	85.3	1.2	1.1	6.1	285
Grapefruit .....	88.8	0.5	0.2	6.5	200
Grapes .....	81.9	1.4	1.4	11.5	355
Lemons .....	89.3	0.9	0.6	2.2	200
Oranges .....	87.2	0.9	0.2	8.8	230
Peaches ... ..	86.9	0.5	0.1	8.78	230
Prunes .....	76.5	0.9	0.2	13.3	420
Rhubarb .....	94.9	0.5	0.1	0.4	80



In Table I the title tells you that the information is about the "Food Value of Fresh Fruits." In the table you can find what items are being compared and how the comparison is being made. This information is found in the left-hand column and at the top of the table. In Table I the left-hand column shows the fruits being compared, and the top row the fact that they are being compared in respect to their percentages of water, protein, fat and sugar content, and in respect to their fuel value as measured in calories.

Sometimes one column is more meaningful than the others. When studying a table, the reader should locate the most important column. In Table I each of the five information columns is important. In some tables, however, one column sums up the information.

Study Table I and answer these questions:

1. What fruit listed in the table contains the largest percentage of water?
2. What fruit has the lowest fuel value in calories per pound?
3. If you wanted a fruit containing a large amount of fuel value, which of the fruits listed in this table would you select?
4. Which fruit contains the largest percentage of protein?
5. Which fruit contains the smallest percentage of water but is high in caloric value because it contains the largest percentage of sugar?
6. How many calories would you secure from eating a pound of peaches?
7. Which fruits listed in the table have the same percentage of protein?

TABLE II

*Land and Water Area of the Largest Fifteen States,  
by Rank*

States	Land Surface Sq. Mi.	Water Surface Sq. Mi.	Total Area Sq. Mi.	Rank according to Area
Arizona .....	113,810	146	113,956	5
California .....	115,652	2,645	158,297	2
Colorado .....	103,658	290	103,948	7
Idaho .....	83,354	534	83,888	12
Kansas .....	81,774	384	82,158	13
Minnesota .....	80,858	3,824	84,682	11
Montana .....	146,131	866	146,997	3
Nebraska .....	76,808	712	77,520	15
Nevada .....	109,821	869	110,690	6
New Mexico ....	122,503	131	122,634	4
Oregon .....	95,607	1,092	96,699	9
So. Dakota .....	76,868	747	77,615	14
Texas .....	262,398	3,498	265,896	1
Utah .....	82,184	2,806	84,990	10
Wyoming .....	97,548	366	97,914	8

Table II gives the number of square miles of land and water surface in the fifteen largest states. The actual numbers are important, but the ranks given in the last column really summarize the three preceding columns and furnish a better basis for comparative order of size. When, for example, it is noted that Utah is tenth in size among the states, a better picture of Utah is secured than could be secured from the facts that it has 82,184 square miles of land, 2,806 square miles of water surface, and a total area of 84,990 square miles.

There are always reasons for the numbers in a table. Sometimes the explanation will be given in the article in which the table appears. At other times the reader's general knowledge of the subject will provide the explanation. By thinking of his geography the reader probably can understand why New Mexico and Arizona have so little water surface, and why California and Minnesota have so much.

Most people can get a few ideas from tables. The skilled reader of tables, however, is the one who can get ideas accurately and quickly.

Some of the questions that may occur in studying Table II may be:

1. What is the largest state in total area in the United States?
2. What state contains the largest area of water surface?
3. Which of the fifteen largest states contains the smallest area of water surface?
4. How does New Mexico rank in total size, compared with the other states in the United States?

Read Table III. Below are ten statements. On your paper write the numbers of the statements that you think are proved by the table.

1. New York has been the largest of the ten cities ever since 1880.
2. Detroit was larger than Pittsburgh in 1900.
3. Each of the ten cities increased in size between 1920 and 1940.
4. Philadelphia in 1880 was larger than Baltimore is today.
5. Boston was larger than Baltimore in 1920.

TABLE III

*Growth of Ten Largest United States Cities, 1880-1940*

Cities	1880	1900	1920	1940
New York.....	1,911,698	3,437,202	5,620,048	7,380,259
Chicago.....	503,185	1,698,575	2,701,705	3,384,556
Philadelphia...	847,170	1,293,697	1,823,779	1,935,086
Detroit.....	116,340	285,704	993,678	1,618,549
Los Angeles....	11,183	102,479	576,673	1,495,792
Cleveland.....	160,146	381,768	796,841	878,385
Baltimore.....	332,313	508,957	733,826	854,144
St. Louis.....	350,518	575,238	772,897	813,748
Boston.....	362,839	560,892	748,060	769,520
Pittsburgh.....	235,071	451,512	558,343	665,384

6. The smallest of the ten cities in 1880 was Detroit.
7. St. Louis made the smallest growth between 1920 and 1940.
8. New York, Chicago, and Philadelphia have been the three largest cities ever since 1880.
9. Each city has gained constantly in population.
10. Los Angeles was the smallest of the ten cities in 1900 and 1920.

*Check your answers with those on page 549.*

## ACTIVITIES

1. Find a table not previously studied. See how many ideas you can get from it.
2. Write the following words on your paper. After each word write a synonym for it.
 

difficult	example	approximately
necessary	secure	accurate
3. Make a graph to illustrate temperature or weather of the past week.

## Reading Cartoons

Pictures are being used today to influence people almost as much as are words. One of the most influential types of pictures is the cartoon. Most newspapers carry at least one cartoon, which is usually found on the editorial page. Because newspaper cartoons are read daily by millions of people, they possess great power to mold public opinion.

According to a Chinese proverb, one picture is worth a thousands words. The cartoon is a fine example of this proverb, for many persons have their beliefs strengthened or changed by what a cartoonist draws.

Cartoons are intended to arouse hatred, fear, patriotism, excitement, sympathy, or other emotions. In newspapers they often are used to cause persons to favor or oppose a political party, a person, a policy, or a law. Because cartoons have become important as a means of influencing the thinking of people, every person should learn how to read and interpret such illustrations.

Every year a committee selects what it considers the best cartoon published in newspapers during that year. The artist of that cartoon is awarded a prize of \$500. The winning cartoon is called the Pulitzer prize-winner, after the man who began the contest.

The cartoon on page 476, called "In Good Old U.S.A.," won the Pulitzer prize in 1923. Jay Norwood "Ding" Darling, the artist, in this cartoon tried to show that the best way to win success in the United States is by working hard. In 1923 America was in a mild depression, and

IN GOOD OLD U. S. A.



AN ORPHAN AT 8 IS NOW ONE OF THE WORLD'S GREATEST MINING ENGINEERS AND ECONOMISTS WHOSE AMBITION IS TO ELIMINATE THE CYCLE OF DEPRESSION AND UNEMPLOYMENT



THE SON OF A PLASTERER IS NOW THE WORLD'S GREATEST NEUROLOGIST AND HIS HOBBY IS GOOD HEALTH FOR POOR CHILDREN



A PRINTER'S APPRENTICE IS NOW CHIEF EXECUTIVE OF THE UNITED STATES



BUT THEY DIDN'T GET THERE BY HANGING AROUND THE CORNER DRUG STORE

some people were beginning to get discouraged. Darling's cartoon did much to show the rewards of hard work in a country like ours.



*A WISE ECONOMIST ASKS A QUESTION*

There are a number of things which should be known or considered in reading or looking at a cartoon. The reader should look for the main point. The chief strength of the cartoon lies in the fact that it pictures one idea. It does not try to tell too much. The one idea pictured is the cartoon "In Good Old U.S.A." is that hard work is the chief thing needed if one is to rise to any position

desired. What do you think is the one idea behind each of the two cartoons that appears on pages 477 and 479?

The title of the cartoon should be read because artists try to give their cartoons titles that tell the main idea in an interesting way. Not all cartoons have titles, for in some the idea is so clear that no title is needed. The title may be printed inside the cartoon, above it, or below it. The title of the cartoon on page 477 is "A Wise Economist Asks a Question." This is one of the most famous cartoons ever drawn. It won for the artist, John T. McCutcheon, the Pulitzer prize of 1931, the year in which 10 per cent of all the banks in the United States failed. As you look at it, you might ask yourself such questions as: Who is the wise economist? What is the question he asked? Why does the man who admits he saved money look discouraged? Is his misfortune due to any fault of his own?

Allowance must be made for exaggeration in cartoons. In order to make his cartoon more striking, the cartoonist makes the situation a little worse than it really is. The reader must be on his guard against this emphasis. The cartoon on page 479 is by D. R. Fitzpatrick and won the Pulitzer prize in 1925. It is called "The Laws of Moses and the Laws of Today." In the year it was drawn state legislatures passed 10,800 laws. The laws that affect people living in one particular state are not nearly so great as the huge mass of laws collected from all states would lead one to conclude. Nevertheless, the main thought, that laws are being made too fast for people to understand them, is probably true.

To understand some cartoons the reader must be

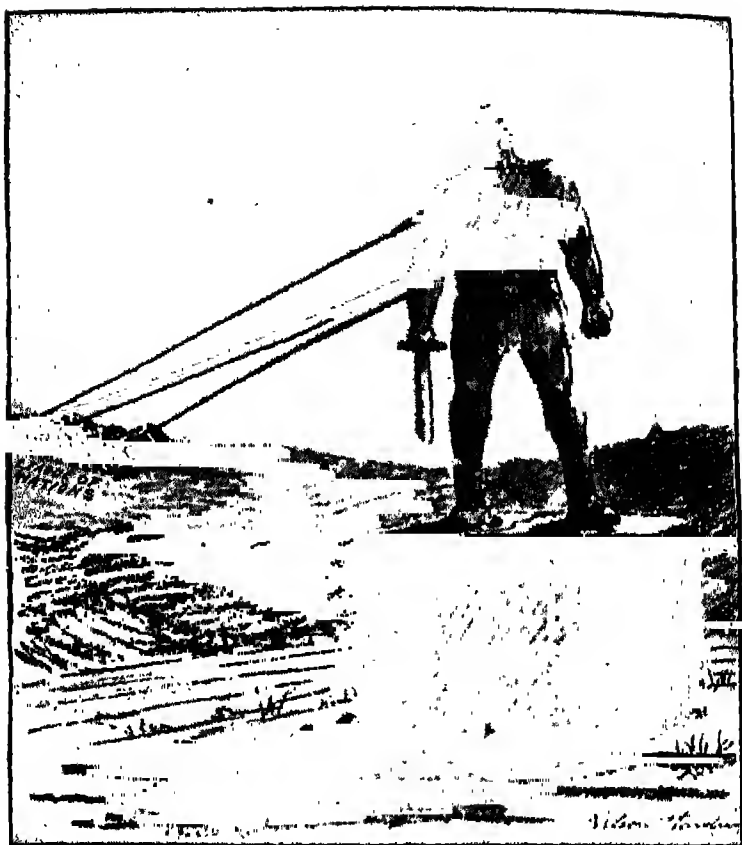




*St. Louis Post-Dispatch*

### **THE LAWS OF MOSES AND THE LAWS OF TODAY.**

familiar with the usual ways of picturing familiar figures. Each large nation and each political party has a typical figure that is used by cartoonists to represent it. Uncle Sam with his small goatee, in a top hat trimmed with stars, and wearing striped trousers, usually represents the United States. John Bull, a shorter and stouter figure, wearing across his chest a sash containing the British colors, is the familiar representation for



### TOPPLING THE IDOL

Great Britain. The donkey always represents the Democratic party. His rival is the elephant, which is the symbol of the Republican party.

In the Pulitzer prize-winning cartoon of 1925, "Toppling the Idol," by Nelson Harding, war is personified by a mail-attired, armed giant. It was drawn while the League of Nations was attempting to form arms limitations treaties.

Prominent leaders of governments and of political

parties are often pictured in cartoons. Because cartoonists emphasize some one feature of their appearance, they are easily recognized. Franklin D. Roosevelt, for example, is usually pictured with large jaws, and is often smiling.

The reader should know which side of a question the cartoonist usually favors. Most cartoonists must picture likes and dislikes. Their cartoons almost always praise the things they wish praised and oppose the things they wish opposed. If a cartoonist wishes to present a person in a favorable light, he will deliberately search for some way to praise that person's actions. If he desires to present him unfavorably, he will try to find a way to attack the person's policies.

A good way to find out the attitude of a newspaper toward prominent persons and political parties is to look at the cartoons presented. Usually the cartoonist will oppose the same things the newspaper opposes in its editorials. If a newspaper openly favors one political party, the cartoons appearing in the newspaper will be inclined to favor that party's actions and to attack the actions of the opposing party.

Cartoons are expected to influence people. Opinions, however, should not be changed too easily. It is easy to discover whether cartoonists are prejudiced by examining their cartoons over long periods of time. If a cartoonist never praises a person whom he draws, it is safe to conclude that he is showing prejudice.

Among other things which cartoonists present are:

1. Sympathy for China, or some other country.
2. Sympathy for Labor.
3. Belief in higher tariffs.

4. Belief in preparedness for war.
5. Belief in neutrality.
6. Belief in the League of Nations.
7. Belief in the Democratic party.
8. Belief in the Republican party.
9. Sympathy for Capital.
10. Distrust of Communism.
11. Belief in a particular administration.
12. Distrust of that administration.
13. Belief in public ownership of national resources.
14. Belief in private ownership of national resources.

The news should be read in order to get the point of difficult cartoons. If the reader is not familiar with events that are occurring day by day, the meaning of a cartoon is difficult to understand. The most effective cartoons are those that are timely. A timely cartoon is one that appears at the time the actual event it portrays is occurring. A cartoon of the President of the United States signing a bill calling out the National Guard for training purposes would be timely only if it were printed during the time when people were discussing that event.

The cartoon on page 482 was a timely cartoon at the time it appeared, but today it would attract very little



Chicago Tribune

attention, because women now have had an opportunity to show what they could do in politics. This cartoon appeared at the time women were to receive the franchise to vote.

The mood of the central characters in the cartoon must be studied. In the cartoon "A Wise Economist Asks a Question" the man who saved his money looks very discouraged. You know, therefore, that something sad has happened to him, despite the fact that he has saved his money. The rest of the cartoon explains why he is sad.

Usually it is easy to understand a cartoon after you have examined the mood of the chief characters. A sad man, as a rule, is the one who is getting the worst part of a deal. Happiness, dislike, hate, fear, and other emotions that may appear on the faces of the characters are placed there by the cartoonist to make his meaning clear.

#### ACTIVITIES

1. Look at the cartoon "A Wise Economist Asks a Question" and answer these questions:
  - a. Why was the squirrel represented in the cartoon?
  - b. What is the mood of the "victim"?
2. If the title of the cartoon "Toppling the Idol" were to be changed, which of the following would be a good one to use?
  - a. War is horrible.
  - b. War pulls the League together.
  - c. The League will dethrone war.
  - d. War stands on a pedestal.
  - e. War.

## Cash Accounts

This article contains one type of table which you will need to learn to read accurately.

A careful business man keeps an account of all money he takes in and all he pays out, to show whether or not his business is paying a profit. An account of this kind is a useful record of personal transactions also. A record of money received and paid out is a cash account. Successful people urge every boy and girl to form, early in life, the habit of keeping a cash account.

The record given here shows the sums of money received and spent by a boy during the month of February. This cash account was kept on two opposite pages of an account book. The cash on hand and the sums received were written on the left-hand page, and those paid out were entered on the right-hand page.

### A Month's Account

1939			1939		
Cash Received			Cash Paid Out		
Feb.	1	Cash on hand	1	25	
	2	Allowance	2	00	25
	5	Delivering papers		75	75
	12	Shovelling snow		25	50
	17	Errand		10	1 00
	28	From Uncle John		25	10
				4	2 00
					4 00
Mar.	1	Cash on hand			

The first item on the left-hand page shows the amount of money on hand on the first day of the month. This first entry shows that the account was started with \$1.25. Because of the ruled columns, it is not necessary to write the dollar sign and the decimal point.

The other five entries on the left-hand page, \$2.00, \$.75, \$.25, \$.10, and \$.25 show the amounts received at different times. The five items, \$.25, \$.75, \$.50, \$1.00, and \$.10 on the right-hand page are amounts paid out.

At the end of the month a single line was drawn below the two columns of money items. Then each column of figures was added. The amount received amounted to \$4.60. The money paid out totaled \$2.60.

The cash on hand, \$2.00 (the difference between the amount received and the amount paid out), was then counted. This was entered as *Balance* on the right-hand side and was added to the payments. The sum of the items in one column then equaled the sum of all the items in the other. The account therefore balanced.

To show that this account was balanced, a double line was drawn below the totals and also across the date columns. On the line below on the left-hand side of the account, the balance, \$2.00, was entered as "cash on hand," March 1, and the account was reopened.

Another way of keeping a personal account is shown in the record made by John Smith. This weekly account shows that John Smith had \$16.50 on June 1, 1931. He spent \$.35 for the movies that day, leaving him \$16.15. On June 2 he bought a pair of shoes for \$4.50, leaving him \$11.65. On June 5 he earned \$.65, making his balance \$12.30. On June 8 he bought a baseball glove, leaving him \$9.80 at the end of that week.

## Account of John Smith

1931	Receipts		Expenses		Balance
June 1	Cash on hand	10 50			10 50
1			Milk	35	10 15
2			Shoes	4 50	11 05
6	Cutting lawn	65			12 80
8			Washed all glass	2 50	9 80
		17 15		7 35	9 80

John could check his account at any time by adding all his expenses and subtracting the sum of the receipts, including the original cash on hand. The last balance was obtained that way— $\$17.15 - \$7.35 = \$9.80$ .

Many families keep accurate record of their income and of the money they spend for various purposes. This account enables them to know how much and on which items to cut their expenses so they may keep within their incomes and save some money.

## Account for March 1 to 7

1931	Receipts		1931	Expenses	
Mar. 1	Cash on hand	28 75	Mar. 1	Rent	35 00
8	Received	50 00	2	Groceries	6 50
				Clothing	10 00
			5	Meat	2 50
				Vegetables	2 25
			7	Coal	15 00
					71 25
				Balance	7 50
Apr. 1	Cash on hand	78 75			
		7 50			



A household account for one week is on page 486. Notice (1) that the form of keeping it is the same as that of a personal account, and (2) that the weekly balance agrees with the cash on hand at the end of the week.

Still another form in which a family account may be kept is shown below. From this, it is convenient to find the daily and weekly amounts paid out and also the total of any one class of expenses.

### Weekly Expense Account

For the week ending March 5

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Total
Food	2.40	3.00	4.10	2.70	1.75	5.25		10.20
Laundry	2.00							2.00
Insurance				1.50				1.50
Recreation	.35	.70	1.15	.35	2.50	.50		5.55
Health		3.00						3.00
Carsfare							.50	.50
Church							1.00	1.00
Incidentals	.70	1.15	.75	.25	1.05	.25	.45	4.50
<b>Totals</b>	<b>5.45</b>	<b>7.85</b>	<b>6.00</b>	<b>4.80</b>	<b>5.30</b>	<b>6.00</b>	<b>1.05</b>	<b>37.85</b>

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Total
Receipts						\$50.00		\$50.00

Total Receipts      \$50.00

Total Expenses      37.85

Total Savings      \$12.15

## ACTIVITIES

1. Review your diaries for the week. How many and what kinds of maps, tables, charts, graphs, cartoons, and illustrations did you encounter in your reading which were difficult for you quickly and easily to interpret?
2. See that your diaries are up-to-date so you can bring them to class to use as a basis for study and discussion.

## SUMMARY ACTIVITIES

1. For one month keep a record of the money which you receive from your allowance, earnings, and gifts, and of the money you spend. Show how you spent your money and the amount that you have left. At the end of the month you may wish to continue your account, for you will have found that keeping a cash account is both interesting and useful.
2. Keep a week's record of uses you make of graphs, maps, diagrams, and tables.
3. Bring to class a cartoon that helped influence your opinion or the opinion of someone you know. Tell where you got the cartoon and who drew it.
4. Keep a scrapbook of cartoons from the newspaper on timely topics and beneath each one write an explanation of its purpose.
5. Show how the practice you have obtained from reading graphs, maps, tables, and cartoons has helped you in your various school subjects. One way of doing this is to keep in your diary an example found in your lessons for the week with an explanation of the way in which you interpreted it.

## SECTION IX

### Applying Reading Skills to Study of Highway Safety

*Safety education in the prevention of automobile accidents is important. A discussion of the topic is given here. Practice is provided in numerous skills to be used in reading the material.*



## Safety in Driving

Try to discover why speed drivers are almost certain to have accidents, no matter how skillfully they drive.

If the present rate of automobile accidents continues, a large percentage of persons living today probably will be killed in or injured by cars. Fewer Americans were killed by bullets, gas, and bombs in the World War of 1914-1918 than are killed by automobiles in equal periods of time. For the past few years between thirty-five and forty thousand people have been killed annually in automobile accidents. In addition to the persons killed, the toll of automobile accidents includes about 900,000 injured persons each year.

One of the big problems facing the nation is how to decrease the number of accidents that have followed the increasing use of the motor car. That the problem is attracting attention is shown by the fact that a large number of states are now waging campaigns to educate citizens in the proper way to drive automobiles. Most of the accidents are caused not by defective automobiles, but by poor driving.

One-third of all the children in school today are going to drive automobiles within a few years. For that reason it is necessary to begin right in the classroom to educate children in the principles of automobile safety.

A few years ago a rate of thirty miles an hour was considered fast. At the present time even the least expensive cars can move along the highway at sixty, seventy, and even eighty miles per hour. It is true that

a present-day car rides as comfortably at sixty miles an hour as a car of fifteen years ago did at thirty-five miles an hour. The question of safety at high speed is another matter.

Some people say, "It's safe for me to drive fast. I have good brakes." Many of these people have no idea how long it takes to stop a car traveling at fifty, sixty, or seventy miles an hour. Sir Malcolm Campbell, who held the speed record for automobiles, had good brakes—several sets of them, in fact—but when riding at top speed, it took him five miles to bring his car to a stop.

A brake manufacturer figured out the stopping time for cars traveling at different speeds, when the brakes are working perfectly. At a speed of 30 miles an hour, a car is traveling 44 feet a second. During the time it takes a driver to make up his mind to put on his brakes— $\frac{3}{4}$  of a second—the car travels 33 feet. This is called his "reaction distance." It requires 40 feet for the brakes to stop the car. The minimum distance in which the car being driven at the rate of 30 miles an hour can be stopped, therefore, is 73 feet.

At 40 miles an hour, the car is traveling 59 feet a second. The reaction distance is 44 feet. The braking distance is 71 feet. The total stopping distance equals 115 feet.

At 50 miles an hour, the car is traveling 74 feet a second. The reaction distance is 55 feet. The braking distance is 111 feet. The total stopping distance equals 166 feet.

At 60 miles an hour, the car is traveling 88 feet a second. The reaction distance is 66 feet, the braking distance, 160 feet, the stopping distance, 222 feet.

At 70 miles an hour, the car is traveling 103 feet a second. The reaction distance is 77 feet. The braking distance is 218 feet. The total stopping distance equals 295 feet.

No matter how carefully one may drive, when he is driving at high speed, he is not driving safely. The car is not under sufficient control to prevent an accident if an emergency should occur.

Even the figures given do not tell the whole story, because the reaction time of drivers—the time it takes to put on the brakes after they have made up their minds to do so—differs greatly. Those drivers with slow reaction time will take longer than average time to put on their brakes. Ralph DePalma, the great automobile racer, in actual tests found that his reaction time averaged  $\frac{3}{4}$  of a second. Many people cannot think as quickly as such a well-trained driver and would travel a greater distance before the car could be stopped.

Still other things must be considered before the figures provided by the brake manufacturer can be accepted. The figures assume that the road surface is of the best type; that the tires on a car are in perfect condition; that the driver of the car is alert in mind and is not tired; and that the brakes are in good condition.

The easiest road on which to stop is rough concrete. There are, however, at least twenty-five different types of roads in use in this country. If a car can be stopped in 44 feet at forty miles an hour when riding on rough concrete, over five hundred feet must be allowed for stopping on a wet, wood-block road.

Weather conditions make a difference. In snow or mud, fifteen miles an hour is the fastest speed at which

one can stop within fifty feet. On icy roads one should not drive more than eleven miles an hour.

If tires are poor, control of the car is even more difficult. If there is more air in one tire than in another, a car is likely to swerve to one side, often directly into the line of traffic. If one tire is newer than the other, the same result is likely to occur when the brakes are applied. A new tire will stop a car 77 per cent faster than an old, worn tire. Of more than three million cars that were tested in 1933, almost half had faulty tires.

Brakes are very important. Assuming that the brakes are well adjusted, the four-wheel type are safer than two-wheel brakes. If one brake is weaker than the others, there is great danger in applying them, especially when the car is going at high speed. The uneven pull of the brakes may cause the car to swerve. According to tests, one out of every three cars has poorly adjusted brakes.

All of the things mentioned so far refer to faults in the car, but the driver must still be considered. Some drivers can press down on their brakes within  $\frac{3}{4}$  of a second from the time objects appear in their paths, but often more time is required. Emergencies are always unexpected and most drivers do not sit at the wheel ready for something to happen. One driver may day-dream while he drives; another listens to the radio; still another is tired, especially after having driven a long distance. For each of these drivers, more than  $\frac{3}{4}$  of a second will be needed before he can apply his brakes.

Because pupils of today will be the drivers of the future, they should become familiar with the common



causes of accidents. There can be a large percentage of reduction of automobile accidents if the future drivers learn how to take proper precautions; in other words, to drive correctly.

### ACTIVITIES

1. Tell in what way you read this article.
2. Complete the following statements by writing on your paper the one word that will make each statement correct.
  - a. One out of every.....children in school today will probably be driving an automobile within a few years.
  - b. In this country about.....persons are killed in automobile accidents each year.
  - c. It took Sir Malcolm Campbell.....miles to bring his car to a stop when traveling at top speed.
  - d. At forty miles an hour, a car can be stopped in .....feet.
  - e. At seventy miles an hour, a car can be stopped in.....feet.
  - f. It takes at least.....of a second to make up one's mind to stop a car. This is called the "reaction time."
  - g. The easiest road on which to stop is one with a .....surface.
  - h. On icy roads one should not drive faster than .....miles an hour.
  - i. New tires will stop a car.....per cent faster than old tires.
  - j. Almost.....of all cars have tires in poor condition.

*Check your answers to 2 with those on page 549.*

## Other Causes of Automobile Accidents

There are important causes of accidents other than speed. Some of the most important ones are mentioned in this article, together with the ways in which they can be overcome.

Read so that you thoroughly understand what is explained in the article.

The drunken driver as a cause of automobile accidents is too well known to deserve mention. Because he is easily recognized by the way he drives his car, this driver probably is less of a menace than the man who has drunk "just a little" alcoholic liquor.

Many persons claim that they can drive well after they have had a few glasses of alcoholic liquor, but scientists say that this is not true. Tests show that one or two drinks double the "reaction time" needed for the driver to apply his brakes. Records show that the man who "had been drinking" kills or injures twice as many persons as the driver who never drinks.

Accidents also occur because the driver cannot see far enough ahead to become aware of a danger. A man driving sixty miles an hour requires 222 feet in which to stop. On a wide, straight highway in daylight he usually can see far enough ahead, but on a winding road he can see ahead only a few feet. The sensible driver slows down on winding roads. He keeps a long enough stretch of road within sight to enable him to stop if necessary. Safety demands that at sixty miles per hour the driver should have a clear view of 600

feet ahead. At eighty miles an hour he needs one thousand feet—almost a fifth of a mile.

One of the greatest causes of accidents is driving too fast when going around curves. The death rate on curves is 126 per cent higher than the average for all accidents combined. Many drivers do not know how to handle their cars on curves. Hundreds of accidents occur when the driver, feeling the car slide, jams on the brakes—the worst possible thing he can do. The car may skid and slide over the bank, and another serious accident is recorded.

The best thing to do when approaching a curve is to slow down. When driving around the curve, the driver should give the car more speed so that the tires will grip the curve more securely. It is dangerous to use the brakes when going around a curve.

Another common cause of accidents is passing another car at improper places and in an improper manner. Many drivers are poor judges of distance. A large number of accidents occur when, after passing the car in front of them, drivers either "cut" back into line too sharply or find they lack sufficient time or space to get back into line. Passing a car going sixty miles an hour is the same as passing a line of cars 275 feet long. This is true even when the passing car is traveling at a speed of seventy-five miles an hour.

A large number of drivers are afraid of blowouts although, as a matter of fact, blowouts cause only one-fifth as many accidents as skidding. Many drivers have queer ideas about blowouts. Some think it a good plan to put the oldest tires on the front wheels and the best tires on the rear wheels. A front-wheel blowout is

more serious than a blowout on a rear tire, because it makes the car harder to steer. Often a front-wheel blowout will tear the steering wheel out of the driver's hands.

When blowouts occur, the startled driver usually, without thinking, presses hard on the brake pedal. This action throws the car still more out of control. The best plan is to hold the steering wheel firmly and let the car coast to a standstill.

Accidents sometimes occur because cars are driven too close together. If the forward car must be stopped quickly, the driver of the following car needs sufficient distance so that he may have time to react properly. A safe driver remains seventy-five feet behind the car in front of him. If he has to get closer, he slows down.

### ACTIVITIES

1. On your paper write the letters from *a* to *e* inclusive. Write what you suggest as the best way to prevent accidents of the following types:
  - a.* Accidents in winding roads.  
Prevention:
  - b.* Accidents at night on straight roads.  
Prevention:
  - c.* Skidding on curves.  
Prevention:
  - d.* Bumping cars in front.  
Prevention:
  - e.* Accidents because of blowouts.  
Prevention:
2. Which of the following statements are true? Write on your paper the letters that indicate the true statements.

- a. A good driver on an open highway always remains at least fifteen feet behind the car in front of him.
  - b. The best thing to do when a car skids on a curve is to let the brakes alone.
  - c. We should put our best tires on the rear wheels where the weight is greatest.
  - d. When blowouts occur, the best plan is to put on the brakes quickly.
  - e. Cars are harder to steer with a rear blowout than with a front blowout.
  - f. A person passing another car should be a good judge of distance.
  - g. The "reaction time" of a driver who has "drunk a little" is lessened.
3. Discover the meanings of these words by seeing how they are used in the article. Write the meanings on your paper.

rear	blowout	skidding
coast	serious	recognize
pedal	traffic	sufficient
menace	reaction	scientist

*Check your answers to 2 with those on page 548*

## Telling a Story Through Tables

Figures arranged in tables do tell stories. A skilled reader can look at the numbers in a table and learn more than he would by reading a whole chapter. The more one reads and studies, the more he appreciates the use of tables. Everyone needs to be able to read the stories that tables tell.

Table I  
Actions of Drivers That Caused Accidents—1940

	Persons Killed	Per Cent	Persons Injured	Per Cent
Exceeding speed limit	9,600	40.0	221,190	25.9
On wrong side of road	4,150	17.3	123,830	14.5
Did not have right-of-way	3,000	12.5	235,700	27.6
Cutting in	360	1.5	21,350	2.5
Passing standing streetcar	20	.1	1,700	.2
Passing on curve or hill	290	1.2	10,250	1.2
Passing on wrong side	290	1.2	10,250	1.2
Failed to signal and improper signaling	820	3.4	80,280	9.4
Car ran away—no driver	40	.2	850	.1
Drove off roadway	1,230	5.1	23,060	2.7
Reckless driving	3,580	14.9	100,770	11.8
Miscellaneous	620	2.6	24,770	2.9
Total	24,000	100.0	854,000	100.0

Read Table I and answer these questions:

1. According to this table, what was the greatest cause of deaths in 1940?
2. What five actions of drivers caused the least number of deaths?
3. What per cent of deaths was caused by reckless driving?
4. What action of drivers caused 2.7 per cent of all injuries?
5. What five actions of drivers caused the most deaths? Name them in order of importance.
6. What was the total number of persons killed in 1940 because of actions of drivers?
7. Over sixty-eight per cent of all persons injured are injured in three different types of accidents. What are these three types?
8. What four actions of drivers cause the greatest per cent of injuries?

*Check your answers with those on page 548*



Table II  
Actions of Pedestrians That Caused Accidents—1940

	Pedestrians Killed	Per Cent	Pedestrians Injured	Per Cent
Crossing at Intersection:				
With signal	190	1.5	15,390	5.3
Against signal	740	5.9	34,560	11.9
No signal	2,150	17.2	48,210	16.6
Diagonally	210	1.7	3,490	1.2
Crossing between intersections	3,950	31.6	74,630	25.7
Waiting for or getting on or off streetcar	40	.3	1,450	.5
Standing on safety isle	50	.4	1,160	.4
Getting on or off other vehicles	140	1.1	3,190	1.1
Children playing in street	650	5.2	34,850	12.0
At work in roadway	500	4.0	7,840	2.7
Riding or hitching on vehicle	120	1.0	3,490	1.2
Coming from behind parked car	890	7.1	38,910	13.4
Walking on rural highway	2,270	18.2	11,330	3.9
Not on roadway	310	2.5	7,550	2.6
Miscellaneous	290	2.3	4,350	1.5
Total	12,500	100.0	290,400	100.0

1. How many persons were killed in 1940 because of children playing in the streets?



2. How many persons were injured because of riding or hitching on cars?
3. What action of pedestrians caused the greatest number of deaths in 1940?
4. Did more deaths occur to pedestrians crossing at intersections than occurred to those who crossed between intersections?
5. How does the number of pedestrians injured when crossing at intersections compare with the number injured between intersections?
6. How many persons were injured because of miscellaneous actions of pedestrians?
7. What were the four actions of pedestrians that caused the greatest number of deaths last year?
8. How many pedestrians were injured coming from behind parked cars?
9. What were the four actions of pedestrians that caused more than 67 per cent of all injuries last year?

*Check your answers with those on page 548*

## The Game of Driving

Driving an automobile is something like playing a game, in that it must have rules in order that the players and the spectators may not be injured. Learn some of the rules for automobile drivers that lawmakers, common decency, and science have set up.

More people drive automobiles than play golf, baseball, tennis, or football. In fact, without the ability to drive a car many persons cannot enjoy their favorite games. It is the automobile that takes them to the shore to swim, to the stadium where they see athletic contests, or to the golf course where they "tee off."

The rules that govern driving, like the rules that govern the playing of games, are definite. The good sport accepts the rules and drives according to them. The poor sport, by taking advantage of other drivers, seems at times to be ruining the pleasure of driving.

In 1940 more than 35,000 motorists were killed because the rules of driving were not followed. In addition to the unfortunate persons who were killed, 1,325,000 were injured. Many of these hereafter will have to watch the game from the sidelines. In many cases deaths were caused by unsportsmanlike actions on the part of others.

The American people as a whole are not poor sports, but the game of driving is still new and drivers have not yet learned that to make up their own rules on the road is dangerous and unsportsmanlike. Young people

who would never think of breaking rules in baseball sometimes brag about the traffic rules they have broken on their way to the baseball diamond.

There are three sets of rules in this driving game. All persons who own automobiles or who expect to own automobiles in the future should know what they are.

The first set of rules are the laws made by the legislators, or lawmakers, of the community. Unfortunately the rules are not alike in all parts of the country, and this makes confusion for people who must drive in many different locations. Whether they are completely satisfactory or not, the rules should be followed. They are intended to help make motoring as safe and as pleasant as possible.

There are two umpires for this first set of rules. One is the police officer and the other is the ambulance driver. A man may think he is smart in getting by both these umpires, but sooner or later he is going to be removed from the game by one or the other.

Although all states do not have the same laws regarding driving, these laws are common to most of them:

1. A car must stop when intersection signals show red lights.
2. A car may pass another traveling in the same direction only on the left side.
3. A car may not exceed the speed limit set by the city or state.
4. In making a turn, the driver must extend his hand as a signal to those following.
5. Drivers must keep to the right of the road.
6. A driver may not drive with defective headlights.

7. A driver may not drive a car when under the influence of liquor.

The second set of rules is set up, not by lawmaking bodies, but by common decency. It is quite possible for a driver to obey all the legal rules and yet be a positive menace to other drivers. Such drivers may be compared with the boxer who follows all the written rules of the game but secures advantages for himself in the countless ways known only to the professional fighter.

A football team that takes unfair advantages of its opponents will be hissed by spectators, neglected by sports writers, and removed from future schedules of its opponents. The American public has many ways of showing its dislike for athletes who do not obey the rules of common decency. The same public is beginning to see that the unsportsmanlike driver deserves to be reprimanded just as much as the unsportsmanlike fighter, or the unsportsmanlike football team.

Some of the rules of common decency given here may be included in the laws of the state. Whether they are listed there or not, common decency should lead all to observe them.

1. Stay to the right of the road and permit others who are traveling more rapidly to pass you.

2. Use the horn only when necessary, and never to frighten or annoy other drivers. Many accidents have been caused by inexperienced drivers becoming frightened because of persistent blasts of the horn.

3. When "cutting" back into line after having passed another car, be considerate of the car that has been passed.

4. When passing pedestrians, allow plenty of room.

5. Refrain from passing a car near the crest of a hill or near a railroad crossing.

6. Check your brakes, lights, and tires frequently to make sure that they are in good condition.

7. Lower your lights so that they do not shine into the face of an approaching driver.

8. Decrease the speed of your car when another driver is attempting to pass you.

There is still another set of rules—rules that never change. They are the rules that Science teaches. There are three of them and they are easy to remember.

1. Two cars cannot be in the same place at the same time. When two cars try to be in the same place at the same time, an accident results.

2. When a moving car hits an immovable object, a serious accident is likely to occur.

3. Alcohol and gasoline do not mix.

It is sad but true that unsportsmanlike drivers can be seen every day on the roads of any community. Often their actions cause accidents. Insurance companies say that the practices of unthinking drivers listed here cause much loss of life and property in the nation as a whole. As you read, stop and think whether you have seen motorists perform these actions. Some of these practices are infractions of laws, while others reveal the lack of common decency.

1. Failing to stop after an accident.

2. Failing to give the right-of-way to a car coming from the right.

3. Turning the car in the middle of the road.

4. "Hogging" the road to prevent others from passing.

5. Dodging in and out of a line of traffic.
6. Blowing the horn constantly.
7. Traveling at too great a speed.
8. Driving out of a driveway without stopping first to see if another car is approaching.
9. Following too closely behind a car in front.
10. Failing to signal when turning a corner.
11. Parking a car on the paved portion of a highway.
12. Parking in front of a driveway.
13. Stopping in the middle of a street to take on or let off passengers.
14. Passing a car on the right.
15. Driving into the line of traffic, without a signal, from a parked position at the curb.
16. Shifting gears in crossing a railroad track.

When people see their friends making poor sports of themselves in the ways described above, it might be a good thing to let the offenders know that their actions are not popular. Unless people show by their examples and actions that they do not like unsportsmanlike driving, the rules are going to be so strict and the umpires so many that there will be no fun in driving.

#### ACTIVITIES

1. There are three types of rules—those made by law-makers, those set up by common decency, and those made by science. Write on your paper the three headings as they are given below. Beside each of the headings write the letters that indicate the actions of motorists that belong with each heading.
  - I. Lawmakers
  - II. Common Decency
  - III. Science

- a. "Hogging" the road to prevent others from passing.
  - b. Parking in front of a driveway.
  - c. Helping a stranded motorist whose car has stopped far from a garage.
  - d. Dodging in and out of a line of traffic.
  - e. Knocking over a telegraph pole that stands in your way.
  - f. Stopping to take an injured motorist to the hospital.
  - g. Failing to signal when turning a corner.
  - h. Failing to stop after getting into an accident.
  - i. Blowing the horn to excite the woman driver in front.
  - j. Turning the car in the middle of the road.
  - k. Passing to the right of a car.
  - l. Increasing the speed when another driver attempts to pass.
2. Use each of these words in a sentence to show that you know the meaning.
- |                 |                |
|-----------------|----------------|
| legislators     | right-of-way   |
| unsportsmanlike | common decency |
| positive        | professional   |
| opponents       | spectators     |
3. In what way or ways did you read the last three articles? Explain why you chose that method.
4. Tell what reading, similar in character and purpose for which it is read, you have done outside of this book.
5. Explain how you can improve your reading and study of such material.

*Check your answers to 1 with those on page 548*

## Decreasing Accidents

Read this article to find the ways suggested as best for decreasing automobile accidents. What reasons are given for the opinion expressed?

Your parents ask themselves how automobile accidents can be decreased, because they fear that you may be one of the unfortunate persons who will be killed or injured by motor vehicles. The police force would like to know the answer to that question, too. Government officials and automobile manufacturers also would like to know it. Many prominent persons are attempting to answer the question.

Harold G. Hoffman, formerly Motor Vehicle Commissioner and Governor of New Jersey, has said that there are three ways to reduce automobile accidents. He calls them the three E's of motor safety.

*The first E is Engineering.* Automobile engineers constantly are seeking ways of making automobiles safer. Safety glass, which crumples but will not shatter, has already saved thousands of lives. The replacement of wood with steel in the construction of the bodies has helped immensely. So has the development of tires, which are almost punctureproof.

Road engineers have done their share. They have widened roads, built traffic circles, built tunnels to eliminate train crossings, and have "banked" roads to make driving easy around curves. Widened roads, however, merely have seemed to encourage faster driving. Other great engineering improvements appear to have had the



same results. It seems probable that we shall have to secure safety through some other means that have not been tried to date.

*The second E is Enforcement.* Fast drivers slow down when they see motorcycle policemen approaching, probably not because they have forgotten how fast they are going and the sight of the policeman reminded them of traffic rules, but because they are afraid of being arrested and fined.

Many cities have found that strict enforcement of traffic laws reduces accidents. Elizabeth, New Jersey, for example, found that strict and intelligent enforcement of the regulations reduced the number of accidents 41 per cent in one year.

*The third E is Education.* No matter how much safety is built into cars and highways, no matter how many policemen are employed to enforce laws, the fact remains that safety will not increase greatly until the public practices safety in its driving. Former Governor Hoffman of New Jersey believes that teaching safety to present and future automobile drivers is the best program to follow if the number of accidents is to be decreased.

Records show that from 1922 to 1933 the traffic accident death rate of children between 5 and 9 years of age decreased 25 per cent, but the death rate for the 15 to 19 age group *increased 130 per cent*. These figures prove the necessity for giving older children more knowledge of traffic laws, causes of accidents, and the responsibilities of the driver and the pedestrian.

Usually boys and girls learn to drive a car during their high school years. Each year more of them use

automobiles. Because of that fact, many people believe that the schools should teach safe driving. The schools have within their walls practically all the children of early high school age. They have teachers who are trained in methods of instruction. The school seems the proper place for early instruction in driving.

Fifteen cities in eight different states have already asked their citizens this question: "Do you think that high schools should teach children about traffic laws, causes of accidents, and what their duties will be as drivers?" The answers were: Yes, 8,432; No, 374. Most of those who answered this question declared that such teaching would be the best way to reduce accidents.

Although at the present time in the United States only one person in five owns an automobile, one person in every three has a driver's license. The remaining two-thirds need the teaching also, for there are numerous rules of safety they should know in order to protect themselves as pedestrians.

Many steps have already been taken to take the problem of automobile safety into the schools. In one county in New Jersey 17 high schools have organized courses in correct automobile driving. The courses are taught by classroom teachers. At frequent intervals, however, motor vehicle inspectors, police officers, judges, and other officials are invited to speak to the groups. Cars and parts of cars have been brought to the schools for study.

In these classes safety is always emphasized. The pupils study the causes of accidents. Right and wrong ways of driving are discussed. The state and local traffic rules are studied. At the end of the term a driving

test is given. Those who pass the test receive certificates which can be used in place of the written examinations which drivers must take when they apply for driving licenses.

Many fine motion pictures have been made to help in the teaching of courses in safe driving. The Motor Vehicle Department of most states has some of the following pictures: "Everybody's Business," "Once Upon a Time," and "Death Takes No Holiday."

In Flint, Michigan the best speakers on high school debating teams are sent to the different clubs of the city to give safety talks to the adults.

The Perry High School of Pittsburgh sends student speakers to the elementary schools of the city in order to help others understand the need of training in safety. A few of the best writers at Perry send safety articles to magazines and local papers.

In Providence, Rhode Island there is a Junior Automobile Club. It meets during one school period each week. Alternate meetings are spent in hearing lectures by persons outside the school who are interested in automobile safety. Lectures include causes of accidents, how the automobile runs, safety equipment of an automobile, care of tires, correct ways of driving, methods of enforcing laws, and the rights of pedestrians. Pupils who pass the test at the end of the term are given certificates that exempt them from the written part of the driver's test.

#### ACTIVITIES

1. Without rereading any part of the article, list the three E's of safety.

2. On your paper write the letter that indicates each statement. After each letter write the number of the phrase needed to complete the statement.
- a. The best way to decrease accidents is to (1) educate the children, (2) improve car engineering, (3) enforce laws more strictly.
  - b. The usual result of making wider roads is (1) fewer accidents, (2) greater speed, (3) fewer strained nerves.
  - c. Elizabeth, New Jersey found that enforcing traffic laws strictly caused (1) more accidents, (2) 41 per cent fewer accidents, (3) 61 per cent fewer accidents.
  - d. One reason for teaching high school students automobile safety is that (1) their death rate in automobile accidents has increased, (2) they are intelligent enough to learn, (3) they like automobiles.
  - e. Questionnaires answered by citizens of many cities show that citizens believe (1) parents should teach automobile safety, (2) boys under twenty-five should not be permitted to drive, (3) schools should have safety courses.
  - f. In some high school safety classes children are given, on the completion of their courses, (1) certificates they can use as exemption from the written test when applying for a driver's license, (2) recommendations as chauffeurs, (3) "stickers" they can use on their cars.

*Check your answers to 2 with those on page 548*

## Testing Yourself in Driving

In a previous article two sets of rules that govern safe driving were mentioned—those that are made by lawmakers and those that come under the heading of common decency. You now have an opportunity to see how well you understand these rules. The first test will reveal whether you know the traffic rules that are used in practically all states. The second test is one in which you compare rules with pictures of violations of safety rules.

### A. TEST ON TRAFFIC RULES

On your paper write the numbers from 1 to 20. After each put the letter or letters to indicate correct answers.

1. You are driving and turning a corner on a green GO signal. A person is walking across the street into which you are turning. He is in a crosswalk. Who has the right-of-way?
  - a. I have.
  - b. I have, if I blow my horn.
  - c. Pedestrian has.
  - d. Pedestrian has, if he raises his hand.
  - e. Neither has.
2. You are driving and are approaching an intersection where there is no traffic officer or STOP-and-GO signal. At the intersection a person is walking across the street on which you are traveling. He is in a crosswalk. Who has the right-of-way?

- a. I have.
  - b. I have, if I blow my horn.
  - c. Pedestrian has.
  - d. Pedestrian has, if he raises his hand.
  - e. Neither has.
3. In many states there is a law requiring persons who desire to drive an automobile to demonstrate that they are competent before they can be granted drivers' licenses. What is the purpose of this law?
- a. To secure revenue.
  - b. To keep a record of drivers.
  - c. To determine the fitness of persons for driving.
  - d. To discover criminals.
  - e. To provide a means for identifying drivers.
4. From the standpoint of avoiding accidents, which seven of the following parts of an automobile are the most important to keep in good condition?
- |                     |                       |
|---------------------|-----------------------|
| a. Tires            | g. Engine             |
| b. Differential     | h. Steering mechanism |
| c. Speedometer      | i. Horn               |
| d. Clutch           | j. Lights             |
| e. Brakes           | k. Gearshift          |
| f. Rear-view mirror | l. Windshield wiper   |
5. You are driving on a two-way street. You are approaching a trolley car which has stopped to load or unload passengers at a car stop where there is no safety zone. Which one of the following actions would you take?
- a. I would pass to the left of the trolley car.
  - b. I would pass slowly to the right.
  - c. I would stop back of the nearest door to the trolley car.

- d. I would blow my horn, if no people were getting on, so that the doors of the trolley car would not be opened for passengers to get off, until I had passed the trolley car.
6. What is the main purpose of a horn on an automobile?
- a. For attracting the attention of my friend and for informing friends who are expecting me that I am waiting for them at the curb.
  - b. For warning pedestrians to get out of my way.
  - c. For warning cross-street traffic at intersections that I want the right-of-way and that I am not slowing down.
  - d. For signaling to pass and for warning other drivers in emergencies.
  - e. For making slower drivers speed up.
7. You are driving a car and you reach an intersection at approximately the same time as a car on your right traveling on the cross street. Who has the right-of-way?
- a. I have.
  - b. The other driver has.
  - c. Neither has the right-of-way.
  - d. I have, if I am going faster and blow my horn.
  - e. If one street is much wider than the other, the driver on the wider street has the right-of-way.
8. You are walking across a street at a wide, irregular intersection. There is no STOP-and-GO signal but there is a considerable amount of traffic. You become confused by vehicles approaching you when you are near the middle of the roadway. As a general rule, what should you do?

- a. Run out of danger.
  - b. Dodge or step out of the path of any vehicle I see coming toward me.
  - c. Stand still.
  - d. Try to avoid being in the path of the faster moving vehicles.
  - e. Walk ahead slowly.
9. You are driving at a moderate speed on a straight stretch of slippery road, slightly down grade, with no approaching cars. The rear end of your car starts to skid toward the *left*. Which of the following steps would you take?
- a. Apply my brakes hard.
  - b. I would not use my brakes.
  - c. Turn front wheels to the right.
  - d. Turn front wheels to the left.
  - e. Step on the accelerator.
10. Which of the following do you consider the two most important factors in traffic accidents?
- a. Lack of traffic law observance.
  - b. Inadequate protective equipment (traffic signals, signs and markings).
  - c. Improper judgment and actions of drivers and pedestrians.
  - d. Mechanical defects on the automobile.
  - e. Poorly constructed streets and highways and lack of repairs.
11. For what main reason does driving at night demand your special attention and caution?
- a. Roads are more likely to be damp and slippery.
  - b. More careless drivers are on the road.
  - c. Poor visibility.

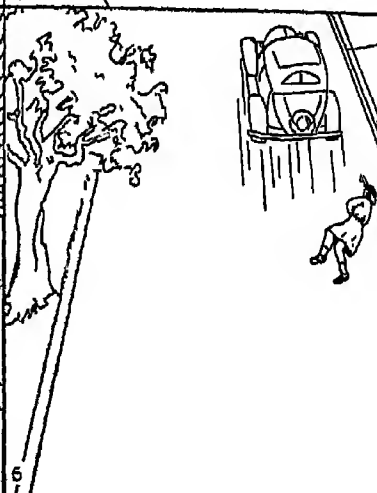
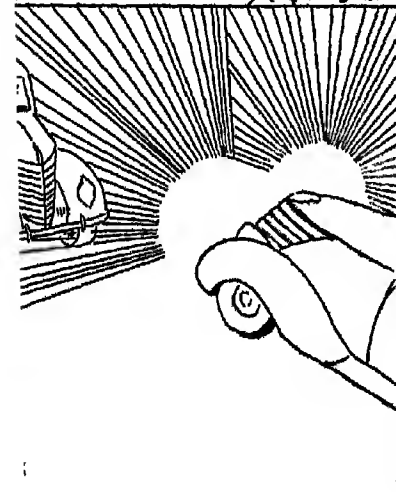
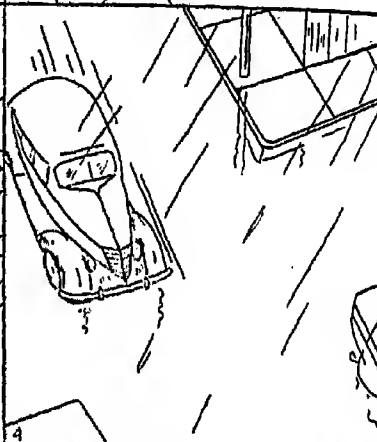
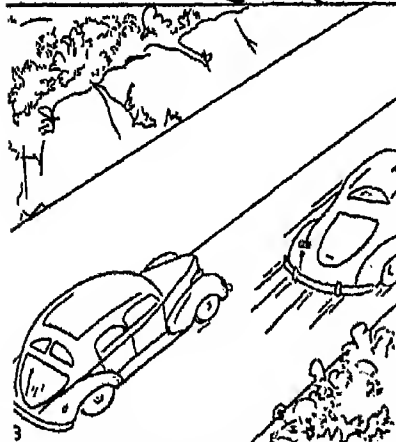
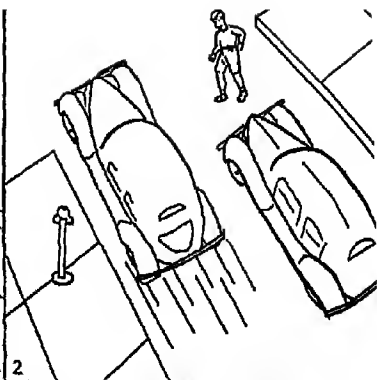
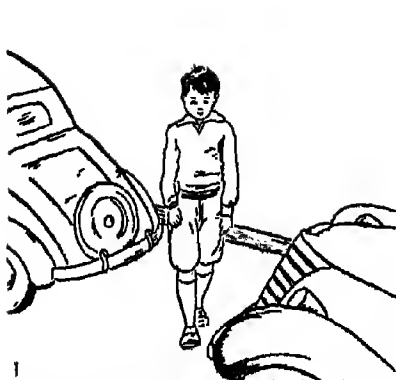


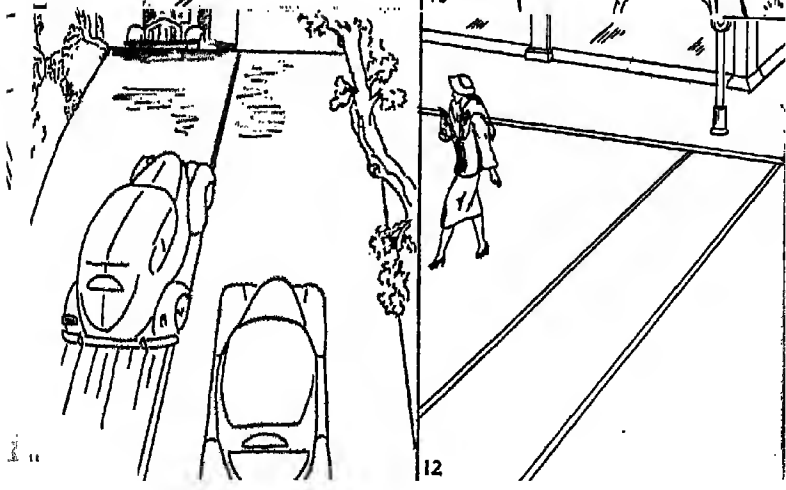
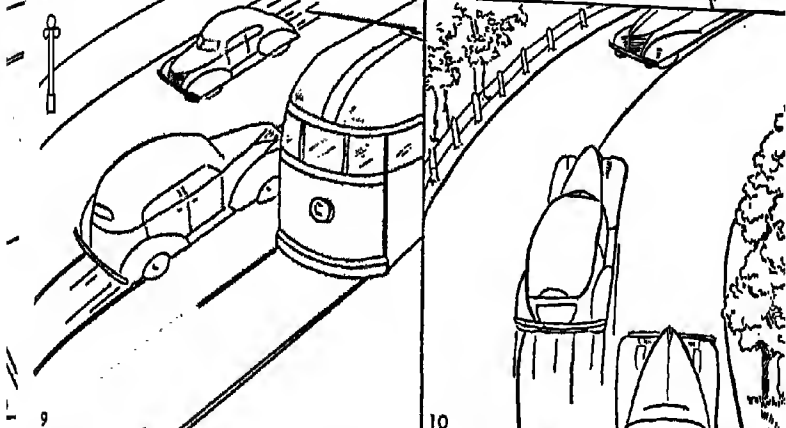
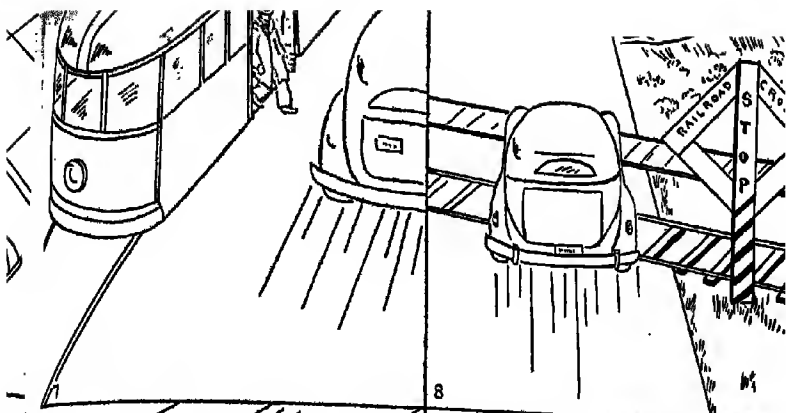
- d. Driver may fall asleep.
- e. Greater possibility of getting lost.
- 12. What percentage of traffic accidents can be prevented?
  - a. Less than 10 per cent.
  - b. From 10 to 25 per cent.
  - c. From 25 to 50 per cent.
  - d. From 50 to 75 per cent.
  - e. Over 75 per cent.
- 13. You are driving on a highway with two lanes in each direction. A vehicle ahead of you is proceeding in the same direction in the lane next to the center line. You wish to pass this vehicle. Which of the following actions would you take?
  - a. Blow my horn. If the car ahead does not pull over to the right, pass on the right.
  - b. Blow my horn. If the car ahead pulls over to the right, pass on the left.
  - c. Pass on the right without indicating to the driver ahead that I desire to pass.
  - d. Pass on the left without indicating to the driver ahead that I desire to pass.
- 14. You are walking and desire to cross the street. Which one of the following procedures will be the safest?
  - a. Cross streets anywhere, but be careful.
  - b. Walk across streets—never run.
  - c. Go straight across—never diagonally.
  - d. Cross from between parked cars.
  - e. Cross at corner, but only after looking to see that the way is clear.
  - f. Be alert in crossing streets in rainy weather.

15. Which of the following will prove most helpful in avoiding traffic accidents?
  - a. Learning the traffic laws.
  - b. Learning about the various parts of an automobile and what they are for.
  - c. Developing good driving habits.
  - d. Developing a sense of boldness or fearlessness.
16. When driving a car, what must you do before entering a through street?
  - a. Come to a full stop, then proceed when safe.
  - b. Come to a full stop, after which I have the right-of-way.
  - c. Slow down, then proceed.
  - d. Shift into low gear, then proceed.
  - e. Blow my horn and proceed to cross if there is no other vehicle within 200 feet of the intersection.
17. Which one of the following statements correctly states your legal rights or duties when you are driving on a through street?
  - a. I may approach and drive through intersections without reducing speed.
  - b. I have the right-of-way over vehicles on the cross streets.
  - c. I must yield the right-of-way (if I can stop safely) to vehicles on the cross streets entering or crossing after they have made a full stop.
  - d. I have the right-of-way over pedestrians crossing the through street at intersections.
18. You are driving. A car has stopped to allow a pedestrian who starts from the right-hand curb to cross the street. What should you do?

- a. Speed up and pass the car on the left before the pedestrian gets in my path.
  - b. Stop behind or beside the other car to allow the pedestrian to cross.
  - c. Pass on the right of the other car, and behind the pedestrian.
  - d. Blow my horn and cautiously pass on the left of the other car and in front of the pedestrian.
19. You want to learn to be a safe and skillful operator of a motor vehicle. In which one of the following ways do you think it is best to get a proper understanding of the motor vehicle and traffic laws, the causes of accidents, the methods of avoiding accidents, and the duties and responsibilities of drivers and pedestrians?
- a. Have parent teach me.
  - b. Have friend teach me.
  - c. Learn by observing what others do.
  - d. Learn through a course in high school on these subjects.
  - e. Study these matters by myself.
20. What should you do when you see a caution signal at an intersection?
- a. Proceed. I have an absolute right-of-way.
  - b. Stop back of intersection and remain stopped until a GO signal appears.
  - c. Slow down. Proceed with caution.
  - d. Slow down only when other vehicles are approaching or are in the intersection.
  - e. Speed up so that I can reach the intersection before the red light is against me.

*Check your answers with those on page 547*





### B. SAFETY TEST THROUGH PICTURES

Study the twelve pictures of dangerous practices of drivers and pedestrians that appear on pages 522-523. Match the pictures with the dangerous practices listed on this page. Write the letters from *a* to *l* inclusive. After each put the number of the picture that shows the practice described.

- a. Pedestrian crossing street from between parked cars.
- b. Driver failing to exercise caution in crossing railroad tracks.
- c. Driver passing on right under improper conditions.
- d. Passing streetcar on left on two-way street.
- e. Driver overtaking and passing vehicle which has stopped at crosswalk to permit pedestrian to cross.
- f. Driver passing car near crest of hill.
- g. Driver on right discourteous in failing to depress beam.
- h. Driver on left approaching highway intersection too fast for conditions.
- i. Pedestrian jaywalking instead of using near-by crosswalk.
- j. Driver passing standing streetcar when passenger is starting to alight.
- k. Driver evading responsibility by not stopping after hitting a pedestrian.
- l. Driver passing on curve when view ahead is obstructed.

*Check your answers with those on page 547*

## Fourth Test of Reading Speed

Place a sheet of paper and a pencil on your desk. Then read these directions carefully.

1. Read the story of Humphrey Davy at the rate of speed you usually use for informational reading. Your chief purpose will be to secure in as brief a time as possible the most important facts connected with Humphrey Davy's life.
2. At the end of the article you will be required to answer twenty questions about the life of Humphrey Davy.
3. As you read, your teacher will indicate on the black-board the amount of time that has elapsed since you began to read. When you finish, glance at the black-board and copy the *last time* recorded. That will be your *time score*.
4. As soon as you have made a note of your time, attempt to answer the twenty questions at the end of the article. Do not refer again to the article even if you are unable to answer some of the questions.
5. When your teacher gives the signal, you may compare your answers with those at the back of the book on page 547. Each correct answer will count five points on your comprehension score. The best reader will be the pupil who has the lowest time score and the highest comprehension score.

*Remember, your only purpose is to secure the most important facts about Davy's life in as brief a time as possible.*

## A Maker of Safety

In the comfortable home of a woodcarver in Cornwall, England there arrived one day in 1778, a baby son whose name was destined to become famous. This fame was to come for many reasons. One of them was his invention of the Davy lamp, a device that, through the years, has saved thousands of lives and millions of dollars worth of property.

Humphrey was the oldest boy in a family of five children. Because he had a remarkable memory and was alert and imaginative, he found school work easy. When only eight years old, he used to mount a box on the school grounds and lecture to his classmates on whatever he had read during that day. His audience enjoyed the performance immensely, but his teachers thought such activities were only signs of "idleness" and frequently punished him.

Humphrey probably could have been a great poet if his interest in science had not led him into other fields. One of the greatest English poets said of him, "Had not Davy been the first chemist, he probably would have been the first poet of his age."

Humphrey was famed for his originality, even as a schoolboy. His friends recalled that one hot day, as they were going for a walk, Humphrey appeared "with his great-coat close-buttoned up to his chin, for the purpose, as he declared, of keeping out the heat." His friends laughed at him. Later they admitted that it was because of his originality that Davy became a great scientist.



At the age of fifteen Humphrey was apprenticed to a surgeon. As he measured medicines, he became interested in Lavoisier's books on chemistry. In the garret of his home the boy carried out many experiments, despite his sister's complaints that all her clothes were being ruined by his chemicals and despite, also, the remarks of friends who said that some day he would surely blow them all to bits.

A stimulus to Humphrey was his friendship with Gregory Watt, the son of James Watt of steam engine fame. Gregory Watt had come to board at Mrs. Davy's house. He and Humphrey became very close friends and the brilliant mind of young Watt was most helpful to Humphrey in many of his early experiments.

Just after his twentieth birthday Humphrey accepted the position of director of a medical institution at Clifton, where the medicinal powers of various gases were being studied. The surgeon to whom Davy had been apprenticed was sorely hurt when young Davy took the position, for he had hoped to see Davy become the leading surgeon of the community. So disappointed was he that he changed the will in which he had arranged to leave his young apprentice a large sum of money.

Davy, however, had become thoroughly engrossed in the field of chemistry. At the institution he nearly lost his life testing the properties of nitrous oxide, sometimes called "laughing gas." People had believed that breathing nitrous oxide would cause death, but Davy breathed 16 quarts of it for nearly seven minutes and discovered that it caused insensibility to pain. Even today "laughing gas" is sometimes used by dentists to relieve the pain caused when teeth are extracted.

Davy's experiments brought him into such prominence that he was invited to become a lecturer at the Royal Institution. At the height of his popularity as a lecturer he was asked by the Board of Agriculture to direct his attention to the chemistry of agriculture. For ten years he worked in this field and helped the farmers immensely in their efforts to improve the fertility of soils. His book, *Elements of Agricultural Chemistry*, which was published in 1813, remained the best book in its field for more than 50 years.

Honors were poured upon the modest young scientist. The Napoleon prize, established by the National Institute of France, was awarded him. Then, in 1812, he was knighted, and thereby earned the privilege of being called Sir Humphrey Davy.

In August, 1815, Davy was offered a chance to perform his greatest service to his fellow men. A committee of mine-owners called upon him to request his help in preventing the terrible destruction of human life resulting from explosions in coal mines.

In the long, underground passages in which coal miners attempted to wrest from the earth the fuel that was becoming so necessary as power for England's new industries and as a means of warmth in England's more comfortable homes, workers were losing their lives in ever-increasing numbers. Light by which to work was absolutely essential in the deep tunnels. The unprotected flares used often united with gases in the atmosphere and caused explosions that sealed the tunnels and left the workers to die of suffocation.

Davy determined to try his hand at solving the problem of a safe light for mines. He visited numerous

mines to learn more about the conditions under which miners work. He secured samples of firedamp, the most dangerous of the gases which created mine explosions. In his laboratory he built numerous models of lamps designed to protect the flare from explosive gases. Finally he succeeded in perfecting a device that became known as the Davy lamp.

The Davy lamp was surrounded by a close-meshed wire gauze. Through the gauze all gases such as oxygen, without which the flame would not burn, could enter. The heat of the flame was absorbed and conducted away by the metal gauze so that the gaseous mixture would not explode.

Sir Humphrey Davy refused to patent his safety lamp. He declared that he wanted no profit from it; he wanted it "to serve the cause of humanity."

Davy went to Geneva, Switzerland to recover from an illness. It was while there, that he died, at the age of 51. The whole world mourned his passing, but no group mourned more sincerely than the thousands of miners into whose lives the Davy lamp had brought so great relief from danger.

#### CHECK YOUR COMPREHENSION

- A. Number your paper from 1 to 10. Beside each number place T if the statement is true, F if false.
1. Humphrey Davy was born in Boston.
  2. His chief claim to fame is his invention of the Davy lamp.
  3. Davy, like many other famous men, was a poor student in school.
  4. As a young man, Humphrey was apprenticed to a surgeon.

5. Davy was absolutely unknown in the field of science when he invented the Davy lamp.
  6. Davy never liked to speak and was a failure as a lecturer.
  7. A book of which Davy was the author dealt with the chemistry of gases.
  8. Davy made a huge fortune from his invention of the Davy lamp.
  9. No gases could enter the Davy lamp.
  10. Gregory Watt was a great friend of Davy's.
- B. On your paper write numbers from 1 to 10. Beside each number write the letter of the word or phrase that correctly completes the statement.
1. His teachers called it "idleness" when he (a) gave lectures to his classmates on what he had read during the day, (b) daydreamed in class, (c) refused to study the useless assignments he was given.
  2. His sister did not want him to experiment with chemicals because she said he (a) would never amount to anything in science, (b) should spend all his time learning surgery, (c) was ruining all her clothes with his chemicals.
  3. One hot day Davy wore heavy clothing (a) because he wanted to amuse his friends, (b) because he was too poor to buy suitable clothing, (c) because he said the heavy clothing would keep the heat out.
  4. Davy, because of his scientific achievements, was awarded (a) a trip to America, (b) the Napoleon prize, (c) a library of scientific books.
  5. Davy almost lost his life when he (a) breathed

- "laughing gas" for seven minutes, (b) went into the mines to test his new lamp, (c) as a young physician tried new medicines on himself.
6. Davy never patented the Davy lamp because (a) the patent office was not yet established, (b) he wanted his invention to serve all humanity, (c) he had borrowed the idea from other inventions.
  7. The most dangerous of the gases that caused the mine explosions was one that was called (a) oxygen, (b) "laughing gas," (c) firedamp.
  8. The principle upon which the Davy lamp was constructed was that (a) the heat of the flame would be absorbed and carried away by the metal gauze, (b) the gauze would keep out all gases, (c) the gauze would purify the gases.
  9. The life of the coal miner was dangerous chiefly because of (a) the dangerous gases that caused explosions, (b) the dust that the miners breathed, (c) the dampness and the danger of colds.
  10. The surgeon to whom Davy was apprenticed was so disappointed when Humphrey left him he (a) refused ever to speak to Davy again, (b) retired from active practice, (c) cut Humphrey out of his will.

*Check your answers with those on page 547*

#### ACTIVITIES

1. There are 1,000 words in the article on Davy. What was the average number of words you read per minute?

2. Among your classmates what is your rank in comprehension and rate of speed? Has your rank changed since your first test?
3. Explain how each of the following may cause lack of understanding of what you read:
  - a. Unusual and unfamiliar words.
  - b. Lack of interest in the subject.
  - c. Inability to understand what you have read because of meager experience. (One whose hobby is science, for example, would understand more easily than others the use of oxygen in the making of steel.)
  - d. Inability to secure mind pictures of what you are reading.
4. Discuss in what way or ways you think you have increased your reading ability. Explain what you did in order to make that progress.

#### SUMMARY ACTIVITIES

1. To study traffic rules in order to thoroughly understand them, what methods of reading would you be most likely to use? If you were looking in a pamphlet on traffic rules for a rule that had to do especially with speed, what methods of reading would you use?
2. If you were to make a complete outline of this section of the book, what would you select as the main topics?

# GLOSSARY

## Key to Pronunciations

ä mat	â rare	î April	ô old	ü up
ã attend	ä beg	ĩ sink	õ occur	û burn
â date	ē silent	ī ice	ōo food	û unite
ä ask	ë be	ô cross	ôo good	û circus
ä idea	ê design	ö on	oi oil	ü menu
ä arm	ē maker	ö or	ou out	tü picture
ä obdurate	ē ear	ö obey	ü use	

### Abdullah

**A**  
**Abdullah** (äb'döb'lä'), native name assumed by Richard Burton.  
**ac cu rate** (äk'ü·rit), *adj.* exact; correct; without errors or mistakes.  
**ad min is tra tion** (äd·mîn'is·trä·shün), *n.* 1. management. 2. mangement of public affairs by government officials. 3. the officials as a group; the government. 4. their period of office or management. 5. giving out, applying, or dispensing (of medicine, justice, etc.).  
**ad mit tance** (äd·mīt'äns), *n.* right to go in; permission to enter.  
**ad ven tur ous** (äd·vën'tür·üs), *adj.* 1. ready to take risks; daring. 2. dangerous; full of risks.  
**af fil i ate** (ä·fil'ī·ät), *v.* associate; connect —*affiliated, affiliating*  
**a mass** (ä·mä's') *v.* heap together; pile up; accumulate.  
**am bas sa dor** (äm·bäs'ä·dër), *n.* 1. highest ranking representative sent by one government or ruler to another. 2. official messenger with a special errand; messenger; agent.  
**am bi tious** (äm·bīsh'üs), *adj.* 1. strong desire for fame or honor; seeking after a high position or great power. 2. thing strongly desired or sought after.

### autobiography

**am bi tious** (äm·bīsh'üs), *adj.* 1. having ambition. 2. showing ambition. 3. desiring strongly; eager.  
**an ces tor** (än'sës'tër), *n.* person from whom one is descended.  
**ap pre ci ate** (ä·prē'shī·ät), *v.* 1. value; enjoy; think highly of. 2. estimate; have an opinion of the value, worth, or quality of. 3. estimate correctly. 4. rise in value. 5. raise in value.  
**ap pre hen sion** (äp'rē·hën'shün), *n.* 1. a seizing; a being seized; arrest. 2. understanding; grasp by the mind. 3. fear; dread.  
**ap prox i mate** (ä·prök's'·mīt), *adj.* 1. nearly correct. 2. very near. 3. very like. —*approximatively*  
**as say** (ä·sä'), *v.* 1. analyze (an ore, alloy, etc.) to find out the quantity of gold, silver, or other metal in it. 2. try; test; examine. 3. attempt.  
 —*n.* 1. analysis of an ore, alloy, etc., to find out the amount of metal in it. 2. trial; test; examination. 3. attempt.  
**at trac tive** (ä·trāk'tiv), *adj.* pleasing; winning attention and liking.  
**au ction** (ök'shün), *v.* sell at an auction.  
 —*n.* public sale in which each thing is sold to the person who offers the most money for it.  
**au to biog ra phy** (öt'ö·bī·ög'rä·fī), *n.; pl.* —**PHIES** (-fiz).

**bacillus**

story of a person's life written by himself.

**B**

**ba cillus** (bă-sil'us), *n., pl.* -CILLI (-i). 1. any of the rod-shaped bacteria. 2. any of the bacteria.

**Bed ou in** (bêd'ôo'-in), *n.* 1. wandering Arab who lives in the deserts of Arabia, Syria, or northern Africa. 2. wanderer. —*adj.* of the Redouina.

**Beethoven** (bē'tō-vēn), Ludwig van, 1770-1827. German composer.

**be hav ior** (bē-hāv'yēr), *n.* 1. way of acting; conduct; actions; acts. 2. manners; deportment.

**bene fac tor** (bēn'ē-fāk'tēr), *n.* person who has given money or kindly help.

**be rept** (bē-rēpt'), *adj.* bereaved; deprived; left desolate.

**be tray** (bē-trā'), *v.* 1. give away to the enemy. 2. be unfaithful to. 3. mislead; deceive. 4. give away (a secret); disclose. 5. reveal; show.

**border** (bōrdēr), *v.* 1. form a boundary to; bound. 2. put a border on; edge.

—*n.* side, edge, or boundary of anything, or the part near it.

**bor ough** (bōr'ô), *n.* 1. incorporated town in the U. S., smaller than a city. 2. one of the five divisions of New York City. 3. town in England with a municipal corporation and a charter that guarantees the right of local self-government. 4. town in England that sends representatives to Parliament.

**C**

**ca reer** (kā-rēr'), *v.* rush along wildly; dash.

—*n.* 1. general course of action or progress through life. 2. way of living; occupation; profession. 3. speed; full speed.

**contradict**

**cat a stroph ic** (kăt'ô-strôf'ik), *adj.* of or caused by disaster; calamitous.

**cir cum scribe** (sûr'kûm-akrīb'), *v.* 1. draw a line around; mark the boundaries of. 2. surround. 3. limit; restrict. 4. draw (a figure) around another figure so as to touch as many points as possible.

**clam or** (klām'ēr), *v.* 1. make a loud noise or continual uproar; shout. 2. demand or complain noisily. —*clamoring*

—*n.* 1. loud noise; continual uproar; shouting. 2. noisy demand or complaint.

**class ify** (klās'i-fī), *v.* arrange in classes or groups; group according to some system. —*classified, classifying*

**com fort a ble** (kôm'fôrt-â-b'l), *adj.* 1. giving comfort. 2. in comfort; at ease; free from pain or hardship. 3. enough for one's needs.

**con ceal** (kôn-sēl'), *v.* 1. hide. 2. keep secret.

**con clude** (kôn-klood'), *v.* 1. end; finish. 2. decide; resolve. 3. arrange; settle. 4. find out by thinking; reach (certain facts or opinions) as a result of reasoning; infer.

**con fer ence** (kôn'fēr-âns), *n.* 1. a meeting of interested persons to discuss a particular subject. 2. act of taking counsel; act of talking something over; consultation with a person or a group of persons. 3. association of schools, churches, etc., joined together for some special purpose.

**con spir a cy** (kôn-spīr'â-sī), *n.; pl.* -CIES (-ies). 1. secret planning with others to do something wrong. 2. plot.

**con tra dict** (kôn'trâ-dikt') *v.* 1. deny (a statement, rumor, etc.). 2. deny the words of (a person); say the opposite of



## convert

(what a person has said). 3. be contrary to; disagree with. convert (kǒn·vǔrt'), *v.* 1. change; turn. 2. change from unbelief to faith; change from one religion, party, etc. to another. 3. take and use unlawfully. 4. turn the other way around; invert; transpose. 5. exchange for an equivalent.

convert (kǒn·vǔrt'), *n.* person who has been converted.

convey (kǒn·vā'), *v.* 1. carry; transport. 2. transmit; conduct. 3. express; make known; communicate. 4. transfer the ownership of (property) from one person to another.

corpuscle (kǒr·pūs·'l), *n.* 1. very small particle. 2. any of the cells that float in the blood, lymph, etc.

corroborate (kǒr·rǒb·ō·rāt), *v.* make more certain; confirm.

counterfeit (koun·tēr·fīt), *v.* 1. copy (money, handwriting, pictures, etc.) in order to deceive or defraud. 2. resemble closely. 3. pretend; dissemble.

—*n.* copy made to deceive or defraud and passed as genuine.

—*adj.* 1. not genuine; sham. 2. pretended; dissembled.

crude (krōd), *adj.* 1. in a natural or raw state. 2. unripe; not mature. 3. rough; coarse; as, a crude log cabin. 4. lacking finish, grace, taste, or refinement; as, crude manners.

Curie (kūr·ē'), Marie, 1867-1934. Polish physical chemist in France; with her husband she discovered radium.

## D

decent (dēs·sēn·sī), *n.*; *pl.* -CIES (-sīz). 1. state or quality of being decent; propriety of behavior; conforming to the standard of good taste. 2. proper regard for modesty or delicacy.

## difficult

definition (dēf·'i·nish'ūn), *n.* 1. act of explaining; act of making clear the meaning of a word. 2. explanation; statement that makes clear the meaning of a word. 3. power of making clear and distinct. 4. clearness; distinctness.

descendant (dē·sēn·dānt), *n.* 1. person born of a certain family or group; as, a descendant of the Pilgrims. 2. offspring; child; great-grandchild, etc. —*adj.* descending.

destine (dēs·tīn), *v.* 1. intend; set apart for a particular purpose or use. 2. cause by fate.

detail (dē·tāl'; dē·tāl), *v.* 1. tell fully; give the particulars of. 2. select for or send on special duty.

—*n.* 1. small or unimportant part. 2. dealing with small things one by one. 3. minute account; report of particulars. 4. minor decoration or subordinate parts in a building, picture, machine, etc. 5. small group selected for or sent on some special duty.

determine (dē·tār·mīn), *v.* 1. make up one's mind firmly; resolve. 2. settle; decide. 3. find out exactly; fix; as, to determine the latitude and longitude of a place. 4. fix geometrical position of. 5. be the deciding fact in reaching a certain result. 6. fix or settle beforehand. 7. give an aim to; direct; impel. 8. limit; define. 9. put an end to; conclude. 10. come to an end. 11. take a course to a definite point or end. *Archaic.*

dictaphone (dīk·tā·fōn), *n.* a trade-mark for an instrument that records and reproduces words that are spoken into it.

difficult (dīf·'i·kūlt), *adj.* 1. hard to do or understand. 2. hard to deal with, get along with, or please.

discover

dis cover (dīs·kūv'er), *v.* 1. find out; see or learn of for the first time. 2. make known; reveal. *Archae.*

distrib ute (dīs·trib'ūt), *v.* 1. give (some of) to each; divide and give out in shares. 2. spread; scatter. 3. divide into parts. 4. arrange; classify.

## E

edito rial (ēd'ī·tō'rī·əl), *n.* article in a newspaper or magazine written by the editor or under his direction, giving the opinion or attitude of the paper regarding some subject.

—*adj.* of or having to do with an editor; by an editor.

effec tive (ē·fēk'tiv), *n.* soldier or sailor equipped and ready for fighting.

—*adj.* 1. producing an effect. 2. producing the desired effect. 3. in operation; active. 4. striking; impressive. 5. equipped and ready for fighting in the army or navy.

em ploy ee (ēm'plōi'ē), *n.* person who works for some person or firm for pay.

en coun ter (ēn·koun'tēr), *v.* 1. meet unexpectedly. 2. meet with (difficulties, opposition, etc.). 3. meet as an enemy; meet in a fight or battle.

—*n.* 1. meeting; unexpected meeting. 2. meeting of enemies; fight; battle.

en dur ing (ēn·dūr'ing), *adj.* lasting; permanent.

epi dem ic (ēp'i·dēm'ik), *n.* 1. rapid spreading of a disease so that many people have it at the same time. 2. rapid spread of an idea, fashion, etc.

—*adj.* affecting many people at the same time; widespread.

es tablish (ēs·tāb'lish), *v.* 1. set up permanently; as, to establish a government or a business. 2. settle in a position; set up in business. 3. bring

fantastic

about permanently; make accepted; as, to establish a custom. 4. show beyond dispute; prove; as, to establish a fact. 5. make (a church) a national institution recognized and supported by the government.

eti quette (ē'ti·kē), *n.* 1. conventional rules for conduct or behavior in polite society. 2. formal rules or conventions governing conduct in a profession, official ceremony, etc.; as, medical etiquette.

evac uate (ē·vāk'ū·āt), *v.* 1. leave empty; withdraw from. 2. withdraw; remove.

eval uate (ē·vāl'ū·ā), *v.* find the value or the amount of; fix the value of.

ex ample (ēg·zām'p'l), *n.* 1. one taken to show what others are like; case that shows something; sample. 2. person or thing to be imitated; model; pattern. 3. problem in arithmetic, etc. 4. warning to others.

ex pe di tion (ēks'pē·dish'ūn), *n.* 1. journey for some special purpose. 2. group of people, ships, etc., that make such a journey. 3. speed; efficient and prompt action.

ex po sure (ēks·pō'shēr), *n.* 1. uncovering; displaying. 2. position in relation to the sun and wind. 3. time during which light reaches and acts on a photographic film or plate. 4. part of a photographic film for one picture. 5. abandoning; putting out without shelter.

## F

face value, 1. value stated on a bond, check, note, bill, etc. 2. apparent worth, meaning, etc.

fan tas tic (fān·tās'tik), *adj.* 1. very odd or queer; wild and strange in shape; showing unrestrained fancy. 2. very fanciful; capricious; eccentric; ir-

## feature

rational. 3. existing only in the imagination; unreal.

**fea ture** (fě'tūr), *v.* 1. be a characteristic of. 2. show the features of.

—*n.* 1. part of the face. 2. distinct part or quality; thing that stands out and attracts attention. 3. long moving picture. 4. special article, comic strip, etc., in a newspaper.

**fil tra tion** (fil·trā'shǎn), *n.* process of straining out impurities.

## G

**germ** (jǔrm), *n.* 1. very tiny animal or plant that causes disease. 2. seed; bud; earliest form of a living thing. 3. beginning of anything; origin.

## H

**hol ster** (hǎl'stēr), *n.* leather case for a pistol attached to a belt or a horseman's saddle.

**Hon du ras** (hǒn·dōō'rās), *republic* in Central America.

**hos til ity** (hǒs·tīl'ī·tī), *n.*; *pl.* -TIES (-tiz). 1. unfriendliness; feeling as an enemy does; being an enemy. 3. state of being at war. 3. opposition; resistance.

**hys te ri a** (hīs·tēr'ī·ā), *n.* 1. nervous disorder that causes violent fits of laughing and crying, imaginary illnesses, or general lack of self-control. 2. senseless excitement.

## I

**i den tify** (ī·dēn'·tīfī), *v.* 1. recognize as being, or show to be, certain person or thing; prove to be the same. 2. make the same; treat the same. 3. connect closely; link; associate.

—*identified, identifying*

**im mi grant** (īm'·grānt), *n.* person who comes into a foreign country or region to live.

**in clude** (īn·klōōd'), *v.* 1. put, hold, or enclose within limits.

## Intense

2. contain; comprise. 3. put in a total, a class, or the like; reckon in a count.

**income tax**, government tax on amount of money a person receives from business, property, or labor.

**in de pen dent** (īn·dē·pēn'dēnt), *n.* 1. person who votes without regard to party. 2. person who is dependent in thought or behavior.

—*adj.* 1. needing, wishing, or getting no help from others; as, independent work, independent thinking. 2. acting, working or especially, voting by one's own ideas, not as the crowd does. 3. guiding, ruling, or governing one's self; not under another's rule. 4. not depending on others. 5. not resulting from another thing; not controlled or influenced by something else; separate; distinct.

**in di cate** (īn·dī·kāt), *v.* 1. point out; point to; show; make known. be a sign or hint of. 3. give a sign or hint of. 4. show to be needed as a remedy or treatment.

**infantile paralysis** acute infectious disease that destroys tissue in the brain and spinal cord, causing fever, paralysis of various muscles, and often death; poliomyelitis.

**in habit ant** (īn·hăb'ī·tănt), *n.* person or animal that lives in a place.

**inheritance tax**, tax on property obtained from one's ancestors.

**in oc u la tion** (īn·ōk'ū·lā'shǎn), *n.* act or process of infecting (a person or animal) with germs that will cause a very mild form of a disease so that thereafter the individual will not take that disease.

**in tense** (īn·tēns'), *adj.* 1. very much; very great; very strong; as, intense happiness, intense

## interest

pain, intense light. 2. full of vigorous activity, strong feelings, etc. 3. having or showing strong feeling; as, an intense person, an intense face.

**in ter est** (in'tēr-ĕst), *v.* 1. arouse attention, curiosity, concern, etc.; arouse the attention, curiosity, etc., of. 2. cause (a person) to take a share or interest in.

—*n.* 1. a feeling of wanting to know, see, do, own, share in, or take part in. 2. power of arousing such a feeling. 3. share; part. 4. thing in which a person has an interest, share, or part. 5. group of people having the same business, activity, etc. 6. advantage; benefit. 7. money paid for the use of money. 8. something extra given in return.

**in ter est ing** (in'tēr-ĕs-ting), *adj.* holding one's attention.

**in ter mit tent** (in'tēr-mit'tĕnt), *adj.* stopping and beginning again; pausing at intervals.

**internal revenue**, money derived by the government from taxes or duties on domestic commerce, trade, industries, etc.

**in ter na tion al** (in'tēr-nāsh'ūn-āl), *adj.* 1. between or among nations. 2. having to do with the relations between nations; as, the international law.

**in ter rupt** (in'tĕ-rŭpt'), *v.* 1. break in upon (talk, work, rest, a person speaking, etc.); hinder; stop. 2. make a break in. 3. cause a break; break in.

**in ter val** (in'tēr-vāl), *n.* 1. time or space between; as, an interval of a week, trees set out at intervals of 20 feet, intervals of freedom from pain. 2. in music, the difference in pitch between two tones.

**ir re sist i ble** (ir'rĕ-zĭst'ĭ-b'l), *adj.* too great to be withstood.

**is sue** (ish'ū), *v.* 1. send out; put forth. 2. come out; go out;

## merchandise

proceed from. 3. be published. 4. published; put into public circulation. 5. emerge. 6. to result or end (in). 7. to result (from). 8. be born; be descended; be derived.

—*n.* 1. something sent out; quantity (of bonds, stamps, copies of a magazine, etc.) sent out at one time. 2. sending out; putting forth. 3. coming forth; flowing out; discharge. 4. way out; outlet; exit. 5. that which comes out. 6. profit; product. 7. result; outcome; as, the issue of the battle. 8. point to be debated; problem. 9. child or children.

## K

**Koch** (kōk), Robert, 1843-1910, German physician and bacteriologist.

## L

**leg is la tor** (lēj'is-lā'tĕr), *n.* law-maker; member of a legislative body.

**lens** (lēnz), *n.* piece of glass, or something like glass, that brings closer together or sends wider apart the rays of light passing through it.

**le thal** (lē'thāl), *adj.* causing death; deadly.

## M

**ma cer ate** (mās'ĕr-āt), *v.* 1. soften by soaking for some time. 2. cause to grow thin. 3. become thin; waste away.

**ma la ria** (mā-lār'ĭ-ā), *n.* 1. disease characterized by periodic chills followed by fever and sweating. 2. unwholesome or poisonous air, especially of marshes.

**man ner** (mān'ĕr), *n.* 1. way of doing, being done, or happening. 2. way of acting or behaving. 3. kind or kinds.

**mer chan dise** (mūr'chān-dīz), *v.* buy and sell; trade.

—*n.* goods for sale; wares; articles bought and sold.

meteor

mete or (mē'tē-ēr), *n.* shooting star; mass of stone or metal that comes toward the earth from outer space with enormous speed.

microbe (mī'krōb), *n.* a germ.

micro coccus (mī'krō-kōk'ūs), *n.*; *pl.* COCCI (-sī). any one of the spherical or egg-shaped bacteria.

micro scope (mī'krō-skōp), *n.* instrument with a lens or combination of lenses for making small things look larger.

mingle (mīng'g'l), *v.* 1. mix. 2.

associate. —*mingled, mingling*

mint (mīnt), *v.* 1. coin (money).

2. make or fabricate; originate.

—*n.* 1. place where money is

coined. 2. large amount. 3.

place where anything is made

or fabricated. 4. sweet-smell-

ing plant used for flavoring.

5. piece of candy flavored with

mint.

## N

nec es sary (nēs-ē-sēr'ī), *n.*; *pl.*

-RIES (-iz) thing impossible to

do without.

—*adj.* that must be, be had, or

be done; inevitable; required;

indispensable.

Nicaragua (nīk-ā-rā'gwā), *re-*

public in Central America.

## O

ob sta cle (ōb'stā-k'l), *n.* some-

thing that stands in the way

or stops progress.

ob tain (ōb-tān'), *v.* 1. get; as,

to obtain a position, to obtain

a prize, to obtain possession

of a house one has rented, to

obtain knowledge through

study. 2. be in use; be cus-

tomary.

ob vi ous (ōb-vī-ūs), *adj.* plain;

easily seen or understood, clear

to the eye or mind; not to be

doubted. —*obviously*

oc cur (ō-kūr'), *v.* 1. happen;

take place. 2. be found; exist.

## permanent

3. come to mind; suggest itself.

—*occurred, occurring*

of fi cial (ō-fish'āl), *n.* 1. person

who holds a public position or

who is in charge of some public

work or duty. 2. officer; per-

son holding office; as, bank of

fi cials.

—*adj.* 1. of or pertaining to an

office. 2. holding office.

op po nent (ō-pō-nēnt), *n.* person

who is on the other side in a

fight, game, or discussion; per-

son fighting, struggling, or

speaking against one.

—*adj.* opposing.

or phan (ōr-fān), *v.* make an or-

phan of.

—*n.* child whose parents are

dead; child whose father or

mother is dead.

—*adj.* 1. of or for such chil-

dren; as, an orphan asylum. 2.

without a father or mother or

both.

o ver whelm (ō-vēr-hwēlm'), *v.* 1.

crush; overcome completely; as,

to overwhelm with grief. 2.

cover completely as a flood

would.

oxy gen (ōk-sī-jěn), *n.* gas with-

out color or odor that forms

about one fifth of the air.

## P

pan icky (pān'īk-ī), *adj.* having

or showing unreasoning fear.

par tic u lar (pēr-tīk'ū-lēr), *adj.*

1. apart from others; single;

considered separately. 2. be-

longing to some one person,

thing, group, occasion, etc. 3.

hard to please; wanting every-

thing to be just right; very

careful. 4. different from

others; unusual; as, a partic-

ular friend. 5. giving details;

full of details; as, a particular

account of the game.

per ma nent (pūr-mā-nēnt), *adj.*

lasting; intended to last, not

for a short time only; as, a

permanent filling in a tooth.

## permission

per mis sion (pēr·mish'ŭn), *n.* consent; leave; permitting.

per suade (pēr·swād'), *v.* 1. win over to do or believe; make willing or sure by urging, arguing, etc. 2. convince.

plague (pläg), *v.* 1. cause to suffer from a plague. 2. vex; annoy; bother.

—*n.* 1. very dangerous disease that spreads rapidly and often causes death. 2. punishment thought to be sent by God. 3. thing or person that torments, vexes, annoys, troubles, offends, or is disagreeable.

plate (plät), *v.* 1. cover with a thin layer of silver, gold, or other metal. 2. cover with metal plates for protection. 3. make (a plate) for printing.

—*n.* 1. dish, usually round, that is almost flat. 2. contents of such a dish. 3. something having a similar shape. 4. dishes and food served to one person at a meal. 5. dishes or utensils of silver or gold. 6. dishes and utensils covered with a thin layer of silver or gold. 7. thin, flat sheet or piece of metal. 8. armor made of such pieces of metal. 9. a plate-like part, organ, or structure. 10. thin, flat piece of metal on which something is engraved. 11. something printed from such a piece. 12. metal copy of a page of type. 13. thin sheet of glass coated with chemicals that are sensitive to light. 14. in baseball, the home base. 15. piece of metal or other firm material with false teeth set into it. 16. thin cut of beef from the lower end of the ribs. 17. part of a vacuum tube to which the electrons flow. 18. timber laid horizontally to receive the ends of other timbers.

pos it ive (pöz'it-iv), *n.* positive degree or quantity. 2. plate in a battery from which the cur-

## professional

rent flows into the wire. 3. print made from a photographic film or plate. 4. the simple form of an adjective or adverb, as distinct from the comparative and superlative.

—*adj.* 1. admitting of no question; sure; without doubt. 2. too sure; too confident. 3. definite; emphatic. 4. that can be thought of as real and present. 5. showing that a particular disease, condition, germ, etc., is present. 6. that definitely does something or adds something; practical. 7. tending in the direction thought of as that of increase of progress. 8. plus; counting up from zero. 9. of the kind of electricity produced by rubbing glass with silk. 10. in photography, having the lines and shadows in the same position as in the original. 11. of the simple form of an adjective or adverb.

practical (präk'ti·käl), *adj.* 1. having to do with action or practice rather than thought or theory. 2. fit for actual practice. 3. useful. 4. having good sense. 5. engaged in actual practice or work. 6. virtual; bringing such in effect. —*practically*

pre vail (prê·vāl'), *v.* 1. exist in many places; be in general use. 2. be the most usual or strongest. 3. be the stronger; succeed; win the victory; be effective.

pro claim (prô·klām'), *v.* make known publicly and officially; declare publicly.

pro fes sion al (prô·fësh'ŭn·äl), *n.* person who makes a business or trade of something that others do for pleasure.

—*adj.* 1. of or pertaining to a profession; appropriate to a profession. 2. engaged in a profession. 3. making a business or trade of something that

## promotion

others do for pleasure. 4. undertaken or engaged in by professionals rather than amateurs. 5. making a business of something not properly to be regarded as a business; as, a professional politician.

**prom o tion** (prô-mô'shŭn), *n.* 1. advance in rank or importance. 2. helping to grow or develop; helping along to success. 3. helping to organize; starting. **prosaic** (prô-ză'ik), *adj.* like prose; matter-of-fact; ordinary; not exciting. —*prosaically* **pro vide** (prô-vid'), *v.* 1. supply; furnish. 2. state as a condition beforehand. 3. supply means of support. 4. take care for the future; as, to provide against accident, to provide for old age. 5. get ready; prepare beforehand.

**Pulitzer** (pû'lit-sēr), Joseph, 1847-1911. Hungarian journalist in America.

## Q

**quan tity** (kwôn'ti-ti), *n.*; *pl.* -TIES (-tiz). 1. amount. 2. large amount; large number. 3. something that is measurable. 4. the length of a vowel sound or a note in music.

## R

**ra bies** (ră'bî-êz), *n.* disease, often fatal, that makes dogs choke, writhe, and foam at the mouth; hydrophobia.

**reg u late** (rêg'û-lăt), *v.* 1. control by rule, principle, or system. 2. keep at some standard.

**re late** (rê-lăt'), *v.* 1. tell; give an account of. 2. connect in thought or meaning. 3. be connected in any way.

**re la tive** (rê'lă-tiv), *n.* 1. person who belongs to the same family as another, such as a father, brother, aunt, etc. 2. relative pronoun.

—*adj.* 1. related or compared to each other. 2. depending for

## seal

meaning on a relation to something else. 3. introducing a subordinate clause; referring to another person or thing.

**re or gan ize** (rê-ôr'găn-iz), *v.* 1. organize anew; form again; arrange in a new way. 2. form a new company to operate (a business in the hands of a receiver).

**rep re sent a tive** (rêp'rê-zên'tă-tiv), *n.* 1. person appointed to act or speak for others. 2. example; type.

—*adj.* 1. having its citizens represented by chosen persons; as, a representative government. 2. representing. 3. enough like all those of its kind to stand for all the rest.

**re pu ta tion** (rêp'û-tă'shŭn), *n.* 1. what people think and say the character of a person or thing is; character in the opinion of others. 2. good name; good reputation. 3. fame.

**re tract** (rê-trăkt'), *v.* 1. draw back or in. 2. withdraw; take back; as, to retract an offer or an opinion. —*retractable*

**re ve nue** (rêv'ê-nă), *n.* money coming in; income.

**right-of-way**, 1. right to go first; precedence over all others. 2. right to pass over property belonging to someone else. 3. strip of land on which a railroad, power line, etc., is built.

## S

**sa ni ta tion** (săn'î-tă'shŭn), *n.* the working out and practical application of measures for cleanliness and health.

**San Jose** (săn hô-sê'), city in western California.

**seal** (sêl), *v.* 1. mark with a seal; make binding thus; certify thus. 2. close tightly; shut; fasten. 3. close up the cracks of. 4. settle; determine. 5. give a sign that (a thing) is true; as, to seal a promise with a

## secure

kiss. 6. set apart; destine; decide beyond recall.

—*n.* 1. design stamped on a piece of wax, etc., to show ownership or authority; a paper, circle, mark, etc., representing it. 2. stamp for marking things with such a design; as, a seal with one's initials on it. 3. piece of wax, paper, metal, etc., on which the design is stamped. 4. thing that fastens or closes something tightly. 5. something that secures; pledge; as, under seal of secrecy. 6. something that settles or determines; as, the seal of authority. 7. mark; sign.

*se cure* (sâ·kūr'), *v.* 1. make safe; protect. 2. make oneself safe; be safe. 3. make sure or certain. 4. make firm or fast. 5. get; obtain.

—*adj.* 1. safe against loss, attack, escape, etc. 2. sure; certain; that can be counted on. 3. free from care or fear. 4. firmly fastened; not liable to give way. 5. unsuspecting; too confident.

*seldom* (sēl'dūm), *adv.* rarely; not often.

*separate* (sēp'ā·rāt), *v.* 1. be between; keep apart; divide. 2. take apart; part; disjoin; cause to live apart. 3. divide into parts or groups; divide or part (a mass, compound, whole) into elements, sizes, etc. 4. draw, come, or go apart; become disconnected or disunited; part company; live apart; withdraw (from). 5. put apart; take away.

*serum* (sēr'ūm), *n.* 1. clear, pale-yellow, watery part of the blood that separates from the clot when blood coagulates. 2. a liquid used to prevent or cure a disease, usually obtained from the blood of an animal that has been made immune to

## Tanganyika

the disease. 3. any watery animal liquid. 4. whey.

*simulate* (sīm'ū·lāt), *v.* 1. pretend; feign. 2. act like; look like; imitate.

*Somali* (sō·mā'lē·lānd), *re-*  
*gion* in eastern Africa divided into British, French, and Italian colonies.

*spectator* (spēk·tā'tēr), *n.* person who watches without taking part.

*spirillum* (spī·rīl'ūm), *n.*; *pl.* -*LA* (-ā). any of a group of bacteria that have spirally twisted forms.

*startle* (stārt'l'), *v.* 1. surprise; frighten suddenly. 2. move suddenly in fear or surprise.

—*n.* sudden shock of surprise or fright.

*subscribe* (süb·skrib'), *v.* 1. promise to give or pay (a sum of money). 2. write (one's name) at the end of a document, etc.; sign (one's name). 3. write one's name at the end of; show one's consent or approval by signing. 4. agree; give one's consent or approval.

*substance* (süb'stāns), *n.* 1. what a thing consists of; matter; material. 2. the real, main, or important part of anything. 3. real meaning. 4. solid quality; body. 5. wealth; property. 6. particular kind of matter.

*suburban* (süb·ūr'bēn), *adj.* 1. pertaining to a town or village near a large city; in a suburb. 2. characteristic of a residential district near a large city or its inhabitants.

*sufficient* (sū·fīsh'ēnt), *adj.* 1. enough; as much as is needed. 2. competent; able. *Archaic.*

## T

*Tanganyika* (tān'gān·yā'kd), 1. lake in central Africa. 2. British territory in E. Africa, formerly a part of German East Africa.



tax

tax (tākā), *v.* 1. put a tax on; 2. lay a heavy burden on; be hard for. 3. reprove; accuse. 4. examine and fix (the costs of a lawsuit, etc.).

—*n.* 1. money paid by people for the support of the government; money taken from people by their rulers.

telegraph (tēl'ē-grāf), *v.* send (a message) by telegraph.

—*n.* a means for sending messages by electricity.

teletype (tēl'ē-tip), *n.* a trademark for a telegraphic apparatus for sending and receiving signals by means of two instruments resembling typewriters.

threescore (thrē'skōr'), *adj.* three times twenty; 60

tiny (tī'nī), *adj.* very small; wee.  
—*tinier, tiniest*

Toscanini (tōs'kā-nē'nē), Arturo, 1867- . Italian conductor in America.

tractable (trāk'tā-b'l), *adj.* 1. easily managed or controlled; easy to deal with; docile. 2. easily worked.

triumphant (trī-ūm'fānt), *adj.* 1. victorious; successful. 2. rejoicing because of victory or success. —*triumphantly*

Tuskegee (tūs'kē'gē), Negro college in Macon County, Alabama.

## U

ultra violet (ūl'trā-vī'ō-lēt), *adj.* of or having to do with the invisible part of the spectrum just beyond the violet.

Uncle Sam, the government or people of the United States.

unsportsmanlike (ūn'spōrts-mān-lik), *adj.* not like or not befitting a sportsman; unfair and dishonorable.

utter (ūt'ēr), *v.* 1. speak; make known; express. 2. give; give out. 3. put (forged checks, counterfeit money) into circulation.

worth

—*adj.* complete; absolute.

## V

vaccination (vāk'sē-nā'shān), *n.* 1. act or process of inoculating with vaccine as a protection against smallpox or other diseases. 2. scar where vaccine was injected.

vault (vōlt), *v.* 1. make in the form of a vault. 2. cover with a vault.

—*n.* 1. arched roof or ceiling; series of arches. 2. arched space or passage. 3. something like an arched roof. 4. underground cellar or storehouse. 5. place for storing valuable things and keeping them safe. 6. place for burial.

version (vūr'shān), *n.* 1. one particular statement, account, or description. 2. a translation from one language to another; as, a version of the Bible.

victim (vik'tim), *n.* 1. person or animal sacrificed, injured, or destroyed; as, victims of war, victims of a swindle, victims of an accident. 2. person or animal killed as a sacrifice to a god.

vivid (viv'id), *adj.* 1. brilliant; strikingly bright. 2. full of life; lively; as, a vivid description. 3. strong and distinct; as, a vivid memory.

## W

weary (wēr'i), *adj.* 1. tired; as, weary feet, a weary brain. 2. tiring; as, a weary wait. 3. having one's patience, tolerance, or liking exhausted.

—*wearier, weariest*

worth (wūrth), *n.* 1. merit; usefulness; importance. 2. value. 3. a quantity of something of specified value; as, a dollar's worth of sugar. 4. property; wealth. *Archaic.*

—*adj.* 1. good or important enough for; deserving of. 2. equal in value to. 3. having property that amounts to.

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To use the answer pages, close the book and turn it upside down. You can then use the pages as you would those in the front of a book.

[illegible]

## OTHER CAUSES OF AUTOMOBILE ACCIDENTS. 498-499

2. b, f, g

## TELLING A STORY THROUGH TABLES. 500-503

Page 501

1. Exceeding speed limit
2. Car running away, passing standing street-car, passing on curve or hill, passing on wrong side, cutting in
3. 14.9%
4. Driving off roadway
5. Exceeding speed limit, driving on wrong side of road, reckless driving, did not have right-of-way, drove off roadway
6. 24,000
7. Exceeding speed limit, on wrong side of road, did not have right-of-way
8. Exceeding speed limit, on wrong side of road, did not have right of way, reckless driving

Pages 502-503

1. 650
2. 3,490
3. Crossing between intersections
4. No
5. about 27,000 more at intersections
6. 4,350
7. Crossing between intersections, walking on rural highway, crossing at intersection without a signal, coming from behind a parked car
8. 38,910
9. Crossing between intersections, crossing at intersection with no signal, coming from behind a parked car, children playing in street

## THE GAME OF DRIVING. 508-509

1. I. Lawmakers—d, e, h, j, k  
II. Common Decency—a, b, c, f, i, l  
III. Science—e

## DECREASING ACCIDENTS. 514

2. a. (1)  
b. (2)
- c. (2)  
d. (1)
- e. (3)  
f. (1)

ix

Pages 465-466

1. 59,100
2. 8
3. (a) 18%; (b) 36%; (c) 22%; (d) 24%
4. southeast
5. percent
6. above the graph
7. to the right
8. yes, 67%

Page 467

1. 10,030

2. Crossing between intersections; walking on highway

3. no

4. 652

5. 8.9%

6. Hitchhiking on vehicles

7. Crossing between intersections

Pages 468-469

1. 6-9 P.M.
2. 9-12 A.M.
3. 10-16%

READING TABLES

Page 471

6. 230

7. Bananas and blackberries,

- lemons, oranges, and prunes;

- rhubarb, grapefruit, and

- peaches

3. New Mexico

4. fourth

Pages 473-474

- 1, 3, 5, 7, 8, 9

SAFETY IN DRIVING

2. a. three

- b. 40,000

- c. five

- d. 115

- e. 295

- j. one-half

- i. 77

- h. 11

- g. rough

- f. three-fourths

5. ore, salt, fruit, lumber
6. Washington, Baltimore, New York, Indianapolis, etc.
7. Buffalo, Cleveland, Toledo, Chicago
8. New York
9. No
10. Yes

Pages 448-449

1. north
2. three
3. Golden Gate
4. Vallejo
5. Muir Woods
6. Mount Tampais
7. Oakland and Berkeley
8. San Mateo

Pages 449-450

1. four
2. earlier
3. Seattle, 1:00 P.M.; Butte, 2:00 P.M.; New Orleans, 3:00 P.M.; Jacksonville, 4:00 P.M.; Cleveland, 4:00 P.M.; Boston, 4:00 P.M.; Los Angeles, 1:00 P.M.
4. Yuma; Los Angeles; Chicago; Dodge City; New Orleans
5. 5:00 P.M.

THE ATLAS ..... 452

1. F4
2. D2
3. A4
4. G2
5. B5

HOW TO READ GRAPHS.....458-469

Page 458

1. above the graph
2. 20 million bushels
3. 3 million bushels
4. 1939
5. 1920

Pages 461-462

1. 2 P.M.
2. 8 A.M.
3. 8 A.M.
4. 11 A.M.
5. below the graph
6. about 74°
3. IX
4. above the graph

Pages 462-463

1. X

2. IX



# READING MAPS.....432-438

1. a. (1) g. (3) h. (2) i. (2) j. (3) k. (4)
2. a. (3) c. (2) d. (1) e. (4) f. (1)
3. a. (3) c. (3) d. (1) e. (4) f. (2) g. (3) h. (3) i. (4) j. (3)
4. a. (3) c. (2) d. (1) e. (3) f. (3) g. (3) h. (2)

## ROADS AND THEIR MAPS.....443

1. 23 miles
2. hard surface
3. 35 miles
4. Syracuse, over 25,000; Cortland, 10,000 to 25,000; Groton, 1,000 to 2,500; Owego, 2,500 to 5,000; Windsor, 10,000 to 25,000; Hamilton, 2,500 to 5,000.
5. East of Cortland to Homer
6. U. S.

## MAPS TELL STORIES QUICKLY.....444-450

### Pages 444-445

1. (b)
2. (c)
3. (a), (b), (d), (e), (h)
4. (b)
5. (c)

### Pages 446-447

1. (c)
2. (a)
3. (d)
4. (a)

### Pages 447-448

1. Chicago, St. Louis, Washington, D.C., Baltimore, Pittsburgh, Cleveland
2. grain; manufactured goods
3. Pittsburgh
4. west

- GOOD MANNERS .....401
1. a. He should not. The lady has the privilege of beginning the action of shaking hands.
  - b. To prevent the food from cooling before it is eaten
  - c. He should not. Instead he should always walk on the outside to protect the lady from splashing and street dangers.
  - d. To face first any unknown dangers that may be outside and to be handy in case his companion trips on the steps
  - e. Custom; originally because a weapon could be hidden in his pocket.
  - f. He should not. He should walk on the outside to protect both companions from street dangers.
  - g. Custom; originally to show that he trusts his host and is thus willing to leave his head unprotected.
  - h. Custom; originally to protect the lady, for he is better able to defend her while he is standing.

- GETTING MENTALLY WARMED UP .....384
1. Know the requirements of the lesson and decide on a plan to accomplish the task
  2. Good physical condition; make a game of his work, perhaps by setting a tentative finishing time
  4. I. Cunningham warming up for a race
  - II. Concentration
  - A. Knowledge of requirements of lesson
  - B. Decision of plan to reach goal
  - III. Interest
  - IV. Distractions
  - A. Think only of lesson
  - B. Do not worry about its difficulty
  - C. Work; do not indulge in wishes
  - V. Keeping up effort
  - A. Good physical condition
  - B. Making a game of the work

2. a. the operator
- b. (on dial phones) a special number; (on manual phones) Repair Service

SECURING PATENTS .....317

1. 1,000  
2. Department of State  
3. 65

# HOW THE FEDERAL GOVERNMENT IS

SUPPORTED .....334-335

2. a. 3  
b. 1  
c. 2  
d. 5  
e. 7

THE GOVERNMENT "MONEY FACTORIES" .....340-342

2. a. 3  
b. 5  
c. 1  
d. 6  
e. 7  
f. 4  
g. 2  
h. 12  
i. 8  
j. 13  
k. 9  
l. 11  
m. 10

FINDING MATERIALS FOR REPORTS .....351-352

2. a. textbook  
b. alphabetically; subjects  
c. last volume  
d. three  
e. title, author, and subject  
f. subject  
g. 100  
h. author, subject  
i. *Who's Who in America*  
j. outline

USING OTHER REFERENCE MATERIALS .....358-359

1. a. Broad Street Station  
b. No. 121  
c. Train does not stop at Trenton  
d. 12 noon  
e. yes  
f. afternoon  
g. yes; train No. 102 stops at both stations  
h. 8:43 A.M.; 8:44 A.M.  
i. 108.1 miles  
j. yes  
k. yes  
l. No. 121  
m. No. 121

THE TELEPHONE DIRECTORY .....371-372

1. a. (3)  
b. (2)  
c. (1)  
d. (3)  
e. (1)  
f. (2)  
g. (2)  
h. (2)  
i. (1)  
iv

# THE STUDENT WHO LOVED ADVENTURE (Second Test of Reading Speed).....133-135

A. 1. T	6. T	B. 1. (c)	6. (a)
2. T	7. F	2. (a)	7. (c)
3. F	8. F	3. (b)	8. (b)
4. T	9. F	4. (c)	9. (b)
5. F	10. F	5. (a)	10. (c)

## THE MICROBE WORLD.....141-142

2. a, b, c, d, h, j

## OUR MICROBE FRIENDS.....146-148

1. a. Microbes change curd of milk to cheese.

b. Yeast microbes change sugar to carbon dioxide

c. Microbes change sugar in apple juice to alcohol;

carbon dioxide gas changes apple juice to cider;

microbes further change the cider to vinegar.

d. One group of microbes return nitrogen from decay-

ing matter to soil; others secure nitrogen from air.

e. Different kinds of microbes produce different

tastes.

2. a. 5 c. 2 g. 4 h. 9 i. 3 j. 7 k. 12

b. 6 d. 8 f. 1 h. 11 i. 7 j. 10

3. "Curing" is preserving. Fish, pork, beef. Some meats

are preserved by salting.

## ENEMY MICROBES.....152-153

1. a. Sewage and street drainage systems, filtration

plants, healthful homes with plenty of sunlight,

refrigerator cars, clearing of swamps, replacement

of slum areas

b. Disease caused by evil spirits entering body, and by

an improper mixture of four substances—blood,

phlegm, yellow bile, and black bile

c. Louis Pasteur and Robert Koch

d. Vaccination trains white corpuscles to overcome

## THE GREATEST GENIUS THAT EVER LIVED (Third Test of Reading Speed).....309-311

A. 1. F 6. F B. 1. (c) 6. (a)

2. T 7. T 2. (a) 7. (c)

3. T 8. F 3. (c) 8. (a)

4. T 9. T 4. (b) 9. (c)

5. F 10. T 5. (a) 10. (a)

2. a. \$1,500  
b. ten-thousand-dollar life insurance policy  
c. four  
d. two years
- TEST PILOT ..... 36

1. T  
2. F  
3. T  
4. T  
5. T
6. F  
7. F  
8. T  
9. F  
10. T

# MORE NEWS ..... 60

1. Germany  
2. English ships  
3. May, 1941
4. England; often the Ark Royal  
had been reported by the Ger-  
mans as sunk
5. British ships

# THE GROWTH OF THE ENGLISH LANGUAGE ..... 78-79

1. a. Greek  
b. Greek  
c. Anglo-Saxon  
d. Greek  
e. French  
f. Italian  
g. Anglo-Saxon  
h. Greek  
4. Nearly one-half million
- i. Anglo-Saxon  
j. Mexican  
k. Norwegian  
l. American Indian  
m. Anglo-Saxon  
n. Anglo-Saxon  
o. Scandinavian

# NEWSPAPERS DURING THE REVOLUTIONARY WAR ..... 118

2. a. Samuel Adams  
b. Whigs  
c. kept up the spirits of the patriots, secured the help  
of additional citizens, and fought the false stories  
circulated by Tories  
d. Thomas Paine; today he would be called a press  
agent.

# THE CALIFORNIA GOLD RUSH ..... 127-128

1. a. (1)  
b. (3)  
c. (1)  
d. (3)  
e. (2)  
f. (2)  
g. (1)  
h. (3)  
i. (1)  
j. (1)
2. a. lured  
b. rocketed  
c. transcontinental  
d. sparsely
- e. stampeding  
f. fabulous  
g. ore; magnet  
h. chest

# ANSWERS

## IMPROVING THE RATE OF READING.....17-19

1. a. Saying silently or aloud the words as they read; moving the head from side to side as they read; pointing out each word with their fingers; frowning, scowling, squinting, or biting lips
- b. Rapid readers. They recognize meanings of words and sentences more quickly, and they give full attention to the thought of the material they are reading.
- c. Read in phrases rather than by words; increase vocabulary; learn to anticipate the meaning.
- d. Easy material
- e. Learn to recognize topic sentences; use such typographical signs as running heads, subtopics, and the headings of chapters, sections, and subsections; skim

2. (1) b
- (2) d or f
- (3) d and f or h and i
- (4) b, f
- (5) b, g, f, and i
- (6) a or a and g or e with h or i
- (7) c or d or b and g plus i
- (8) e or b and g

## THE WOMAN WHO FOUND HUMAN BEINGS IN PRISON (First Test of Reading Speed).....24-26

- |         |       |           |         |
|---------|-------|-----------|---------|
| A. 1. T | 6. F  | B. 1. (b) | 5. (b)  |
| 2. F    | 7. T  | 2. (a)    | 7. (a)  |
| 3. T    | 8. F  | 3. (b)    | 8. (c)  |
| 4. T    | 9. T  | 4. (b)    | 9. (c)  |
| 5. F    | 10. T | 5. (a)    | 10. (c) |

## PRACTICING RAPID READING.....30-31

- |           |        |        |        |
|-----------|--------|--------|--------|
| 1. a. (1) | c. (2) | d. (3) | f. (4) |
| b. (3)    |        |        |        |

